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ARCHAEOLOGICAL REMAINS MONUMENTS & MUSEUMS

PART I



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P R E F A C E

A limited edition of this book was produced by the ARCHAEOLOGICAL SURVEY OF INDIA on the occasion of the Twentysixth International Congress of Orientalists, which was held in New Delhi from the 4th to the 10th January 1964, on behalf of the Organizing Committee of the Congress, for the use of the Delegates thereto. By arrangement with the Organizing Committee, the book is now being republished by the SURVEY, with a view to making it available to persons wanting acquaintance in a general way with the ancient remains and monumental edifices of India, together with such museums as house her antiquarian relics.

The book was initially intended to be in the nature of a handbook, but later on it was felt that a somewhat comprehensive treatment of the varied and vast material would be more to the purpose than a mere sketch of sites and buildings, as that would hardly satisfy even a casually-interested tourist. Archaeological remains cannot be viewed in isolation from the culture they belong to; nor can monuments be divested of the architecture they partake of. Such considerations have resulted in the enlargement of the volume of the book over what was originally contemplated.

The book starts with the remains of the proto-historic age; the earlier, that is the prehistoric, age, till now identifiable in India almost solely by stone implements, without any but geological association, has been left out of its purview.

The book is bound in two parts, there being no other consideration in the division than convenience of handling.

The chapters in the book have been contributed by my colleagues in the SURVEY, while the work of co-ordination and editing has naturally been mine. These colleagues have also helped me in seeing the book through the press and have thus earned my thanks.

A. GHOSH
*Director General of Archaeology
in India*

CONTENTS

	PAGE
PART I	
I. Protohistoric remains <i>by Y.D. Sharma</i>	1
II. Remains of early historical cities <i>by Y.D. Sharma</i>	43
III. Northern Buddhist monuments <i>by Krishna Deva</i>	85
IV. Southern Buddhist monuments <i>by K.R. Srinivasan</i>	100
V. Rock-cut monuments <i>by K.R. Srinivasan</i>	109
VI. Northern temples <i>by Krishna Deva</i>	157
Plates I to LVIII	... at the end
PART II	
VII. Southern temples <i>by K.R. Srinivasan</i>	191
VIII. Islamic monuments <i>by Y.D. Sharma</i>	241
IX. Museums <i>by H. Sarkar</i>	329
Index	357
Plates LIX to XCVI	... at the end

ARCHAEOLOGICAL REMAINS MONUMENTS & MUSEUMS

I. PROTOHISTORIC REMAINS¹

CONTENTS

	PAGE
1. Introduction	1
2. North-west Rajasthan	3
3. The Sutlej and Beas valleys	7
4. The upper Ganga-Yamuna <i>doāb</i>	10
5. The central Ganga basin	13
6. South-east Rajasthan	18
7. Central India and the Deccan	20
A. The Narmada Valley	20
B. The Chambal Valley	22
C. The Tapti Valley	23
D. The Godavari Valley	24
8. West India	27
9. East India	33
10. South India.	34
11. Kashmir	39

1. INTRODUCTION

IT WOULD BE FUTILE TO LOOK FOR A UNIFORM pattern of culture over all parts of India at any period in her long history. Stone Age and Iron Age have been and, in fact, to some extent continue

¹ For places mentioned in this chapter, see map, fig. 1, p. 42.

PROTOHISTORIC REMAINS

to be contemporaries here. The same is true of history and protohistory. However, it was a little earlier than the middle of the first millennium B.C. when certain incidents of known date, which had lasting consequences for almost the entire country, took place, and these may be taken to mark the beginnings of the historical period of India's past. The annexation of the Indus valley, then part of India, by Darius of Persia late in the sixth century B.C. was a significant event of known date. This was also the time of the birth of two great teachers of proved historicity, Buddha and Mahāvīra, founders of Buddhism and Jainism respectively, and of the establishment of the kingdoms of Avanti, Magadha, Kosala and Vatsa, which provide some moorings to dynastic histories. To archaeologists the occurrence of the Northern Black Polished Ware (abbreviated below as N.B.P. Ware), a shiny hard pottery of superior manufacture with its centre of dispersal in the central Ganga basin, is a sure indication of the early historical period. Its beginnings are dated to the middle of the first millennium B.C., although it still awaits a convincing confirmation. Writing—often spoken of as the watershed between history and protohistory—must have been taking a shape now, if it had already not done so, as is evident from the later inscribed edicts of Aśoka of the third century B.C. and from certain short inscriptions, such as that of Piprahwa, suspected to be even earlier.

The long period of protohistory, which preceded it and served as it were as the crucible in which the main ingredients of historic civilizations crystallized, is taken to have begun about the beginning of the third millennium B.C., at any rate in certain parts. Small isolated communities now came closer

INTRODUCTION

together and contributed towards evolving certain broad patterns of living and customs. It was also during this period that certain alien folks, including the Aryans, moved into India, perhaps in several waves and at several points, setting in motion a chain of movements, clashes and upheavals, which resulted finally in whatever mutual adjustments were possible. This was no doubt the formative period for different Indian cultures, societies and institutions, and, in fact, it is this period which holds largely the key to the personality of India.

It is proposed to describe the protohistoric cultures of India regionwise, as their diversity and interrelationship are, it is believed, thus best comprehended. In this scheme of regional divisions, river-valleys naturally play an important part, for it is along these valleys that the major civilizations were born, took shape and thrived.

2. NORTH-WEST RAJASTHAN

It is for a very good reason that this account starts with north-west Rajasthan (instead of, as usual, with Panjab), with a vast expanse of sandy desert and not of fertile lands. And the reason is that this part of Rajasthan was not a desert in protohistoric times; instead, it witnessed the affluence of the Harappa civilization, the earliest urban civilization of the Indo-Pakistan subcontinent, when it first entered what now comprises India. The Aravallis, running south-west to north-east, bisect Rajasthan, geographically and archaeologically. To their north-west stretches a vast desert, in the northern part of which between the now-dried-up rivers, Sarasvatī and Drishadvatī (presently known as

PROTOHISTORIC REMAINS

Ghaggar and Chautang) lay the holy land of Brahmāvarta. The remaining southern part of the desert is watered by the Luni and its tributaries, which have not been adequately explored as yet. On the other side of the main range of the Aravallis the land is watered by the Banas and Chambal, where a chalcolithic culture arose in only slightly later times (below, pp.18-19) and was even contemporary with the Harappa culture of the north-western Rajasthan but, for all we know, shows no signs of having come into contact with it.

The antecedents of the Harappa culture continue to elude the archaeologist, but interesting evidence of a pre-Harappan occupation comes from Kalibangan, District Ganganagar, on the left bank of the Ghaggar, currently under excavation. There are two mounds here. At the smaller, western, mound the lower deposits are distinguished by a red ware, which is poorer in texture, compactness and surface-treatment than the Harappan Ware overlying it. It is thin in fabric, dull-slipped and painted in black, occasionally in combination with white, with a repertoire of essentially geometric designs (pl. III A). On most pots decoration is concentrated on the neck and shoulders, and frequently the striation-lines on the interior are not horizontal and indicate some kind of break in handling. The houses are of mud-brick, their orientation at variance with that of the later overlying Harappan structures. There are, however, chert blades, terracotta bangles and flat terracotta 'cakes'. Over these deposits a wide mud-brick wall, likely to be defensive in purpose, was raised by the Harappans soon after their arrival. Whether the western mound represents the citadel, as do the smaller western mounds at

NORTH-WEST RAJASTHAN

Harappa as well as Mohenjo-daro, is as yet far from certain.

On the larger, eastern, mound, the pre-Harappan and Harappan elements are bracketed in lower levels, while in the upper levels the former get gradually thrown into the background or are entirely superseded, suggesting thereby that both the Harappans and pre-Harappans lived side by side initially, but not for all the time. Bronze implements, chert blades, faience, terracotta 'cakes', seals and sealings bearing the typical 'unicorn' bull and other animals and Indus script (pl. II C), with all of which we are familiar from the Indus valley sites, occur in these levels. The Harappan houses are built of sun- or kiln-burnt brick, on either side of streets (pl. I) laid in a grid pattern.

This pre-Harappan pottery is more characteristic of the Drishadvati valley, where it was noticed earlier, and christened as Sothi culture from the name of the site where it was first recovered. It was, however, regarded later than the Harappan, not on any stratigraphic evidence (which was not forthcoming without excavation) but from its comparatively poor quality. In its dull slip and painted bands over the neck, it has some common traits with pottery from the Zhob valley, Amri and Kot-Diji and, in fact, with the meagre pre-defence pottery at Harappa (all now in Pakistan), but its relationship with the Harappa culture itself is as yet on no account determined. Some of its forms are somewhat comparable with the Harappan ones, such as the well-known dish-on-stand, while others seem to anticipate them. It may have played some part in building up the assemblage of the Harappa culture, at any rate of that phase which is found in Rajasthan, Panjab and Uttar Pradesh.

PROTOHISTORIC REMAINS

The life-span of the Harappa culture in the Indus valley, based largely on the occurrence of certain Harappan-type seals at Ur and elsewhere and on other contacts with Iraq, is generally accepted as between 2500 and 1500 B.C. When exactly the Harappans moved from the Indus valley on to the Hakra (as the Ghaggar is called in its lower reaches in Pakistan) and arrived at Kalibangan and other sites on the Ghaggar is not yet certain. But two samples from the late levels of the Harappa culture at Kalibangan have yielded Carbon-14 dates of 2095 ± 115 and 2045 ± 75 B.C., which indicates that the Harappan habitation at Kalibangan is likely to have come to an end about 2000 B.C. It may have begun four-to-five centuries earlier.

The Harappans were followed on the banks of the Sarasvatī and Drishadvatī by the users of the now well-known Painted Grey Ware, for information on whom we may draw on the excavations at Rupar (below, p. 8) and Hastināpura (p. 10), on the Sutlej and an old bed of the Ganga respectively, their habitations in Rajasthan having been only scantily excavated. Curiously enough, their settlements in Rajasthan lie away from Harappan mounds and do not overlie them, as do some of their settlements on the Sutlej and in the Ganga-Yamuna *doāb*. Bowls and dishes of fine grey ware, painted in black with bands on the edges, and with vertical, oblique or criss-cross lines, sigmas, *svastika*-symbols, spirals, circles, dots and dashes over other parts, constitute their characteristic pottery. With it also occurs a black-slipped grey ware, often fine, which, by gradual improvement and perfection, is likely to have matured in the N.B.P. Ware of the historical period. Cooking-and storage-vessels are in a dull and dusty-red ware. The people were familiar with

NORTH-WEST RAJASTHAN

semi-precious stones and glass for beads, and copper for implements. They may have known iron, but it has been traced so far only later in their life, as at Alamgirpur (below, p. 10). Their houses, which have so far largely eluded the spade, seem to have been built with mud or wattle and daub. Mutton, beef and pork formed part of their dietary. They also used the horse, which had remained unknown to the Harappans. Economically, they were largely a pastoral-agricultural people. From the fact that they had widely occupied the Panjab valleys and the Ganga-Yumuna *doāb*, which was also the scene of the activities of the early Aryans in India, it is surmised that the Painted Grey Ware people are not different from them. At Hastināpura, the Painted Grey Ware deposits are dated to *circa* 1100-800 B.C. All that may be said at present is that they may have arrived in the river-valleys of north-west Rajasthan, Panjab and west Uttar Pradesh round about 1000 B.C., judging from the fact that the remains of their culture lie substantially below those of the early historical period.

3. THE SUTLEJ AND BEAS VALLEYS

Although Harappa lies on the bank of an ancient bed of the Ravi, upstream of it no traces of Harappans have been identified so far. There is, on the other hand, a regular chain of such sites on the upper Sutlej and also a few sites on the White Bein, a tributary of the Beas. The Sutlej was probably a tributary of the Sarasvatī in early times, and before it captured the Beas it participated in the Ghaggar-Hakra and not the Indus system. The Harappans appear, therefore, to have entered the Sutlej valley *via* the Sarasvatī, and their likely route may have

PROTOHISTORIC REMAINS

lain over the dried-up bed of the Naiwal, possibly an old bed of the Sutlej.

With the possible exception of the existence of a pre-Harappan phase, as noticed at Kalibangan, the protohistoric cultures on the Sutlej followed the same pattern and order as on the Sarasvati. Rupar, a 21-m. high mound overlying the Siwalik deposits on the left bank of the Sutlej, where it emerges into the plains, has yielded a sequence of six periods, with some breaks, from the Harappa times to the present day (below, p. 48). Of these the lower two, the Harappan followed by the Painted Grey Ware, fall in the protohistoric period. A steatite seal in Indus script, impressions of seals on a terracotta lump (pl. II A), chert blades, copper implements and vessels, terracotta 'cakes', beads and bangles of faience and typical pottery—all testify to a flourishing Harappan township here. The earliest houses of the Harappans were built with river-pebbles, but soon they made use of cut-slabs of lime-conglomerate or brick, the latter agreeing in size with that found in the Indus valley. Mud-brick walls were sometimes raised on foundations or plinth-base of stones. The dead were buried in pits in an extended position, with the head generally on the north, along with funerary vessels (pl. IV), as in Cemetery R-37 at Harappa.

What exactly led the Harappans to desert the site is not known. The Painted Grey Ware people followed them in due course. The full equipment of the latter, consisting of typical pottery, including the black-slipped ware, beads and bangles of terracotta, semi-precious stones, glass and bone, bone arrow-heads, ivory kohl-sticks and copper implements, is found here. It is to be noticed that glass, which was unknown to the Harappans, seems to

SUTLEJ AND BEAS VALLEYS

have been introduced by the Painted Grey Ware people. There exists also flimsy evidence of their houses in the shape of burnt lumps of clay with impressions of reeds, which were apparently the material used in walls and roofs.

On the whole, the Harappan material at Rupar agrees with the Kalibangan assemblage, but at Kotla Nihang Khan, 2 km. south-east of Rupar, the small Harappan settlement appears to be free from the pre-Harappan element of Kalibangan and even otherwise is characterized by such pottery-forms, like the goblet with a pointed base, as occur in profusion at Harappa and Mohenjo-daro but are absent or rare in Rajasthan or on most other known sites in Panjab. Kotla Nihang Khan, therefore, appears to represent an earlier Harappan immigration and Rupar a later one.

The position of Bara, another site 8 km. south of Rupar, is difficult to determine. A dull-red slip on its pottery, with concentration of wide bands or other designs in black on shoulder and neck (pl. III B), shows a family-likeness with the pre-Harappan pottery at Kalibangan. But among points of divergence is its thickness and sturdiness. Equally noticeable is the rarity of terracotta 'cakes' and the goblet with a pointed base here. Also the source of its incised decoration on cooking- and storage-vessels is by no means certain, even though such decoration is not quite absent at Kalibangan. Seemingly Bara has, therefore, some affinity with the pre-Harappan Kalibangan and although influenced by that tradition appears to be later than Rupar.

The remains of the Harappa culture at Rupar were tentatively dated to *circa* 2000-1400 B.C., but in view of the Carbon-14 dating of Kalibangan (above, p. 6) that date may require revision. The

PROTOHISTORIC REMAINS

Painted Grey Ware here was assigned to *circa* 1000-700 B.C.

4. THE UPPER GANGA-YAMUNA DOĀB

The Siwaliks barred the march of the Harappans beyond Rupar, only small settlements having been found on the Sirsa, a tributary of the Sutlej above Rupar. They now swept east on to the Yamuna. At Alamgirpur (District Meerut) on the bank of the Hindon, a tributary of the Yamuna, the familiar pattern of the Painted Grey Ware culture succeeding the Harappan is repeated. The settlement was small but possesses the characteristic material of both the cultures. The Painted Grey Ware habitation here exemplifies a later phase of that culture, for with it is recorded iron indisputably for the first time and also present are such pottery-types and other objects, as were hitherto reported only from the levels of the N.B.P. Ware. A few sherds of a black-and-red ware also occur with the Painted Grey Ware, but these may be imports from another region (below, p. 17). Alamgirpur, however, is not the terminus of the eastern Harappan movement, for pottery with Harappan affinities has already turned up on some sites between the Yamuna and the Ganga.

The Painted Grey Ware is the dominant proto-historic industry of this region, although associated with black-slipped and red wares. When it was identified first at Ahichchhatrā, (District Bareilly, below p. 50) its stratigraphic position was in doubt, but this has been clarified by subsequent excavations. And yet the overall position in the upper Ganga basin is not wholly clear. For both at Hastināpura (District Meerut) and at Atranjikhera (District Etah)

THE UPPER GANGA-YAMUNA DOĀB

on the Ganga and Kali-Nadi respectively, the latter itself a tributary of the Ganga, below the Painted Grey Ware lies a red ware, often inadequately fired and susceptible to rubbing off even with a mild finger-touch. It was christened as ochre-coloured ware at Hastināpura. No other material is found with it, except brick-bats reported from Atranjikhara. The excavator of Hastināpura, B.B. Lal, concluded that as a red ware with obvious likeness of character with the Hastināpura ochre-coloured ware was found by him in the trial-soundings at Bisauli and Rajpur-Parsu (in Budaun and Bijnor Districts respectively), from where among other sites in the Ganga basin certain typical copper implements, mostly in hoards, had been reported earlier, this pottery was likely to be part of the Copper Hoard culture.

But who were the users or the authors of the Copper Hoards? R. Heine-Geldern believed that these and certain other copper implements in Panjab (Pakistan) and west Asia belonged to one and the same category and were to be taken to be the traces of the Vedic Aryans, who formed part of the Indo-Aryans migrating from Caucasia, south Russia and west Iran between 1200 and 1000 B.C. Originally Stuart Piggott also believed likewise, although subsequently he took them as evidence of the colonization of the Ganga basin 'by refugees and displaced persons from Panjab and the Indus valley during the time of the break up of the Harappa empire and the coming of the raiders from the west'. Lal, on the other hand, concluded that these objects could be associated neither with the Harappans nor with the Aryans, for the specialized types, such as the shouldered celt, harpoon, antennae spear-head, hooked spear-head and anthropomorphic

PROTOHISTORIC REMAINS

figure, were typologically different from the typical Harappan implements. Besides, their metal was copper, while the Harappan implements were made of bronze. Since the bar-celt had a parallel or a prototype in stone in certain regions inhabited by the aboriginal tribes and the harpoon bore resemblance with barbed spear-heads noticed in some cave-paintings in Mirzapur District, again a tribal region, Lal concluded that the Copper Hoards were manufactured by a people inhabiting the Ganga valley before the arrival of the Aryans, and these were possibly the Proto-Australoid aborigines.

Subsequently, while the Ganga canal was being diverted for the construction of a hydroelectric power-house, at Bahadarabad (District Saharanpur), 13 km. west of Hardwar, a pottery with a family-likeness to the so-called ochre-coloured ware and a Copper Hoard (pl. V) were discovered in the diversionary channel. By the time the site was taken up for a regular examination by the present writer, a major part of the ancient settlement, that had yielded the pottery and copper objects, had been thrown up, but the same pottery and certain stone tools were recovered 5·6 m. below the ground in systematic cuttings against the banks of the canal.

The Bahadarabad pottery is red, thick and inadequately fired and rubs off easily. It compares well in texture and fabric with the ochre-coloured ware of Hastināpura. But whereas the latter yielded only a couple of shapes, the former supplied several shapes, some of which, interestingly enough, are common with the Harappa pottery. In fact, the ware rubs off owing to inadequate firing and the effect of long water-logging. Its cultural affiliation could be assessed on typological affinity and not merely on its texture and fabric, which is deceptive.

Its affinity with the Harappa pottery, although limited, suggests that it might well have been manufactured by the last remnants of the Harappans in the Ganga basin before they sunk into what may at present be described as an oblivion. A broken bronze object from Lothal, a Harappan site on the western coast of India (below, p. 27), described as a celt by the excavator, may possibly be the head and part of the trunk of an anthropomorphic figure. This would indicate the association of the anthropomorphic figure either with the Harappans or with some other culture contemporary with it. At any rate, it seems unlikely that the primitive aborigines possessed a knowledge of metallurgy advanced enough to manufacture the specialized types included in the Copper Hoards.

Hastināpura was the capital of the Pāṇḍavas, heroes of the *Mahābhārata*, and, according to the Purāṇic tradition, Nichakshu, a descendant of the Pāṇḍavas, abandoned Hastināpura as a result of a flood and subsequently settled at Kauśāmbī. The excavator of Hastināpura believes that this flood may be identical with the one which brought about the end of the Painted Grey Ware habitation at Hastināpura and which has left its scars on the mound (pl. VI A).

5. THE CENTRAL GANGA BASIN

There is no definite evidence at present of a habitation earlier than the Painted Grey Ware in the central Ganga basin, although there seems no reason why such a phase should not be evidenced by exploration in future. At Kauśāmbī, on the northern bank of the Yamuna, the site of an extensive town of historical period associated with the

PROTOHISTORIC REMAINS

life of Buddha, a decadent grey ware with paintings in black is preceded by a sturdy red ware and a black-and-red ware, but the former, in spite of its alleged affinities with the protohistoric pottery of Navdatoli in central India and certain Harappan and post-Harappan wares in western India, is as yet without any moorings, for the parallelism is based solely on shape and does not take texture, fabric and absence of painting into account. Since, however, it underlies the impressive defences of an early date pl. VI B) and continued even after their construction, it must be of high antiquity. The Painted Grey Ware occurs, however, at Śrāvastī (District Bahraich), another town where Buddha passed several years at a monastery, and at Sohagaura (District Gorakhpur), the former on the Rapti and the latter at the confluence of the Rapti and Amī.

The first two periods of Kauśāmbī, both preceding the introduction of the N.B.P. Ware but respectively characterized by a sturdy red ware and a decadent painted grey ware, are dated by the excavator to *circa* 1165-885 B.C. and 885-605 B.C., working back from the twentyfourth structural phase taken to date to *circa* A.D. 515 and allowing a span of seventy years for each structural phase. These periods, however, appear to be highly antedated. The earthen rampart, revetted with a thick battered brick veneer (pl. VI B) and later associated with a corbelled drain, was built during Period I and recalls similar features in the citadel at Harappa. It was repaired and added to several times, guard-rooms, bastions, etc., being constructed in the second one of its five main building phases during the historical Period III of the town.

It may be recalled that in north-west Rajasthan, Panjab and upper Ganga-Yamuna *doāb*, with the

CENTRAL GANGA BASIN

Painted Grey Ware also occurs a black-slipped ware (above, pp. 8-10), while some sherds of a black-and-red ware were found at Alamgirpur (above, p. 10, and below, p.17). While the Painted Grey Ware appears to go out of use in the eastern part of the central Ganga basin, the black-slipped and black-and-red wares assume prominence and, to some extent, seem to take over the tradition of painting the designs which were hitherto confined to the Painted Grey Ware. At Śrāvastī and Sohagaura some sherds of the black-slipped ware bear such paintings in buff or cream, although they are much too restricted in range. At Sohagaura and Sonpur (District Gaya), the latter on the Jamunai, an artery of the Ganga system, the black-and-red ware bears such paintings.

Usually somewhat coarse, but sometimes fine, black-slipped and black-and-red wares occur among the lowest deposits at Kauśāmbī, Rajghat, Prahladpur (both in District Varanasi), Śrāvastī, Sohagaura, Sonpur and Chirand (District Saran), all on the arterial system of the Ganga. It is only in the upper horizons of these deposits that the N.B.P. Ware makes its first appearance. There are, however, no indications of an advanced cultural prosperity in these levels, such as brick-built houses and artistic objects, except at Kauśāmbī. Instead, often micro-liths are found in them in small quantities, e.g., at Rajghat, Prahladpur, Sonpur and Chirand. The picture is confused but would appear less so if it is realized that the central Ganga basin was the meeting-point of several traditions.

The black-slipped ware at Sohagaura may be a part of the Painted Grey Ware culture. On other sites, where it is coarse and may reveal further differences, it appears to be associated with the coarse

PROTOHISTORIC REMAINS

black-and-red ware and microliths, the source of which lies perhaps in the Vindhya to the south of the Ganga. Here microliths occur in plenty, on open surface and in rock-shelters, some of them bearing paintings. The rock-shelter near Moraina (District Mirzapur), recently excavated, yielded a wide range of microliths and a burial but little pottery. But both pottery and microliths are reported from the megaliths at the foot of the hill locally known as Hathinia on the right bank of the Chandraprabha (District Varanasi), which may possibly indicate the next stage in the life of the microlith-using people in these parts. Coarse dull-red, black-slipped and black-and-red wares, perhaps both hand-made and wheel-turned, occur in these megaliths. There is no evidence of iron in them, but evidence of gold-wash exists on a terracotta finger-ring. There were also some animal bones, but no human ones. The megaliths in the Jangal-Mahal range are generally similar, although no microliths or bones have been found in them, in spite of there being no dearth of microliths on the surface. To what extent the microliths in the Hathinia region may be regarded as integral with the ritual of the megalithic burial needs, therefore, further verification.

At least the later phase of the Vindhyan microlithic culture and the contemporary culture in the central Ganga plains were obviously in some kind of contact. Some of the Vindhyan pottery-types, such as the legged bowl with perforations at the bottom and the conical lids, occur also in the black-slipped and red-and-black wares in the plains. It is noticed that on some of the sites in the central Ganga basin the black-and-red ware is crude and incipient in its lower levels, suggesting a gradual perfection. On the other hand, it does not appear

CENTRAL GANGA BASIN

to be a local manufacture in the upper Ganga-Yamuna *doāb*. What perhaps happened was that vessels in this ware were carried to such places as Alamgirpur by pilgrims and travellers, much in the same way as in later times utensils of the N.B.P. Ware found their way to distant corners.

At Kauśāmbī, Rajghat, Prahladpur, Sohagaura, Sonpur and Chirāṇ the black-and-red ware is also sometimes found painted with simple linear designs in white. The tradition of painting the black-and-red ware with designs in white was firmly established at Ahar in south-east Rajasthan (below, p. 18), but it appears doubtful if there is at present a definite case for influence on the central Ganga region from that quarter, particularly because if black-and-red ware were to be painted, the natural colour that would suggest itself would be white or cream, and, as such one does not necessarily have to postulate a borrowing from another region merely on the basis of the colour of the painting. At the same time, the possibility of the tradition of white painting having reached the Yamuna over the Chambal from Rajasthan and then having travelled on to the central Ganga basin cannot be ruled out.

To return to the megaliths. There are in the Vindhyas several types of megaliths, such as cist with capstone, cist covered by cairn, cairn enclosed by circle, cist of dressed stone with capstone, and stone-circle with an upright in the centre. Generically they are one with the megaliths in south India (below, p. 36), but typologically and culturally they must be distinguished from the latter. Apart from other contexts, the Vindhyan megaliths have no iron appendage and must be earlier than the southern ones.

PROTOHISTORIC REMAINS

6. SOUTH-EAST RAJASTHAN

The protohistoric cultures of north-west Rajasthan have been described earlier (p. 3). To the south-east of the Aravallis the land is watered by the Banas-Chambal system and is quite fertile. Here a rich protohistoric culture flourished as illustrated by a wide distribution of its remains and the excavations at Ahar, (ancient Āghāta), near Udaipur, and Gilund, 72 km. north-east of Ahar.

At Ahar, on the bank of a river of the same name partaking in the Banas system, the 13-m. thick accumulations of habitation fall into two periods: protohistoric and early historic, with a long gap between them. The characteristic ceramic of the protohistoric period, divisible into three phases, A, B and C, is a black-and-red ware, painted in white with dots, lines or circles. A bowl with incurved or straight sides, a shallow dish-on-stand and a globular jar with high, narrow neck constitute the main types in this pottery; the storage-jar and cooking-vessel are red or black and decorated with incised or applied designs. The distinctive feature of Phase A is the occurrence of pots in cream-slipped and buff wares, absent from the later phases. Similarly, the additional occurrence of black-on-red, blotchy grey and lustrous red wares characterizes Phase C. The houses are built of mud-brick, their walls resting on stone rubble, either in foundation or on plinth-base. Copper was the metal in use. A few microliths were also found, but it is almost certain that they did not form part of the protohistoric cultural equipment. There are beads of terracotta and semi-precious stones, the former more plentiful. The animal terracottas comprise the bull, ram, elephant, dog and rhinoceros, while the human figurines have

SOUTH-EAST RAJASTHAN

a pinched nose. There are large hearths, with two or four cooking-positions. Animal bones attest to a diet that included meat, while querns and rubbers were used for pounding the grains.

Based on Carbon-14 determinations, the proto-historic period of Ahar, may have lasted from 1800 to 1300 B.C. This fits in with Carbon-14 dates for two other sites with which Ahar appears to have had contacts. The shapes of the cream-slipped and buff wares agree with the protohistoric pottery of Navdatoli dated between the seventeenth and fifteenth centuries B.C. (below, p. 22), while in Period I B was found a single sherd of the Jorwe Ware, dated from Nevasa between the fifteenth and thirteenth centuries B.C. (below, p. 25). Among the additional wares found at Gilund, on the Banas, are a black-on-cream and a red ware painted in polychrome. Otherwise, with some minor variations, Gilund confirms the picture obtained from Ahar. It is likely, however, to have had an earlier beginning, particularly because unlike Ahar, microliths are here an essential equipment of the protohistoric cultures as in central India.

The antecedents of this protohistoric culture of south-east Rajasthan remain unresolved and call for further investigation. Certain correspondences are no doubt noticed between the pottery from Ahar, and Navdatoli, while both may have analogues in pottery from sites in Iran. For instance, the goblet on a hollow tall stand and a bottle-like vessel occur at Tepe Hissar, while the double bowl-like jar is found at Shah Tepe. Some contact may, therefore, be certainly indicated. But if we are to imagine that south-eastern Rajasthan or central India was colonized by people from Iran, much firmer evidence would have to be looked for.

PROTOHISTORIC REMAINS

7. CENTRAL INDIA AND THE DECCAN

The protohistoric cultures of central India flourished in the valleys of its four main river-systems. Microliths, copper, beads of semi-precious stones, black-and-red and black-on-red wares, houses of wattle and daub and burials in urns or pits are some of their common characteristics. There are mainly two traditions in the painted red ware: that of Navdatoli on the Narmada and of Jorwe on the Pravara, a tributary of the Godavari. The existence of mutual contacts between south-east Rajasthan and central and west India is also evident. Within this framework, we may now view briefly the cultures of these river-systems.

A. THE NARMADA VALLEY

Navdatoli and Maheswar (District West Nimar), on the southern and northern banks of the Narmada facing each other, provide the story of the course that civilization took on the Narmada. Two main periods, a protohistoric and an early historic, are identified at Navdatoli. At Maheswar habitation commenced contemporaneously in protohistoric times, but, with a major break after *circa* A.D. 500, continued till late medieval times (below, p. 72).

Copper, microliths, beads of semi-precious stones and terracotta, and a red-slipped ware, usually painted in black, which is now commonly described as the Malwa Ware, combine to give an identifiable form to the protohistoric culture at Navdatoli and Maheswar. This culture suggests, however, four phases. In addition to the Malwa Ware, a white-painted black-and-red ware and a white-slipped ware, painted in black or vermilion with the same designs as on

CENTRAL INDIA AND THE DECCAN

the Malwa Ware, with which it also shares most of the shapes, occur in Phase I. The black-and-red ware disappears in Phase II. Another black-on-red, i.e., the Jorwe Ware of Godavari valley (below, p. 24), appears in Phase III and continues in Phase IV, which is generally marked by a degeneration in all the existing ceramics. Bowls and dishes, with or without stem, are the two characteristic shapes in the Malwa Ware and in the associated white-slipped and black-and-red wares. The large number of microliths are dominated by blades, although the lunate, trapeze, scraper and flake with 'crested guiding ridge', also occur. There are beads of steatite, faience, semi-precious stones, shell and copper.

Navdatoli appears to have been a populous habitation. Its houses, square, oblong or round on plan, with passages between them, were built with bamboo-matting and posts, plastered with mud and white-washed with lime. Perhaps the roofs were also built with bamboos and reeds laid over with mud. The people ate wheat, rice and several other grains, which are produced in the region till this day.

Certain shapes in pottery, such as the concave-sided carinated bowl in white-slipped ware from Phase I, the channel-spouted bowl in the Malwa Ware from Phase III (pl. VII A) and the stemmed bowl (pl. VII B), which occurs in the earliest levels, seem to resemble the pottery from Sialk. Such parallels with Iranian pottery are also noticed at Ahar, as already mentioned (above, p.18), and also at other sites like Nagda, Bahal and Prakash and indicate a close Iranian contact with central India. That this took the form of an Aryan immigration from Iran into central India, as the excavator believes, is certainly possible but would need further confirmation, as already stated (above, p. 19).

PROTOHISTORIC REMAINS

Samples from the protohistoric deposits of Navdatoli were dated by Carbon-14 method both by the University of Pennsylvania and the Tata Institute of Fundamental Research, Bombay. The dates of the latter would place the beginnings of the protohistoric period at the beginning of the seventeenth century and its end about the end of the fifteenth century B.C.

B. THE CHAMBAL VALLEY

The Painted Grey Ware had penetrated into the Chambal system, perhaps over the Yamuna, but the characteristic protohistoric culture of this system goes with the central Indian order, with copper, microliths and the typical Malwa Ware. Nagda (District Ujjain), on the east bank of the Chambal, revealed three periods, the lowest chalcolithic. The houses here were built of mud-brick and the possibility of one of the structures being part of a bastion cannot be ruled out. The same pottery and other equipment were noticed in chalcolithic levels at Awra and Manoti (District Mandasor.) At the former site was noticed a white-painted black ware, and at the latter sherds of white-painted black-and-red ware.

At Eran (District Sagar) on the Bina, a tributary of the Betwa, which ultimately joins the Yamuna, the thick deposit is divided into four periods (below, p. 70), the lowest of which is protohistoric, and shares all the equipment of the chalcolithic cultures of central India, including the white-painted black-and-red ware. A grey ware with paintings in black or red also occurs. Channel-spouts occur late in the period. Towards the end of the chalcolithic culture, but well within it, the settlement was enclosed by a

CENTRAL INDIA AND THE DECCAN

wide mud-rampart and a moat outside it, except on the riverside. On the basis of the similarity of the pottery from these sites with that from Navdatoli, the beginnings of protohistoric habitation at these sites could also be dated approximately to the seventeenth century B.C., the Carbon-14 determinations for Eran exhibiting several contradictions.

C. THE TAPTI VALLEY

Microoliths and pottery characteristic of the central Indian chalcolithic culture have been picked up on a large number of sites along the banks of the Tapti. At Prakash (District West Khandesh), on the confluence of the Tapti and Gomai, four periods were identified, the lowest being protohistoric and containing microoliths, copper and the Malwa Ware. A fine grey and a coarse grey wares, the latter painted in ochrous colour, also occurred.

Bahal (District East Khandesh), on the river Girna, a tributary of the Tapti, revealed five periods, the lowest of which, again, contained chalcolithic material. This period was divided into two sub-periods, A and B. Sub-period A contained a thick grey ware, its urn-shape reminiscent of the Brahmagiri urn, and a thin grey ware painted on the lips in ochrous red and hand-made storage-jars decorated with incised and applied designs. The Malwa Ware and spouted vessels of the Jorwe type occurred in Sub-period B, along with a burnished grey ware and black ware painted in white. Microoliths and beads of terracotta, shell and paste were found in both phases.

Tekwada, opposite Bahal across the river Tapti, supplemented the picture of the chalcolithic culture in this region, for here were noticed some fractional

PROTOHISTORIC REMAINS

urn-burials and a burial in pit. The associated pottery consisted largely of a red ware painted in black, and evidently contemporaneous with Period I B of Bahal. But, significantly enough, a black-and-red ware, some of its sherds painted in white, was also present. Opposite Prakash across the Tapti, similar fractional burials were noticed at Korat. Whether these burials and their black-and-red ware will help in working out a relationship between them and the south Indian megalithic burials (below, p. 36), is yet to be seen.

D. THE GODAVARI VALLEY

Nasik and Jorwe on the Godavari system have revealed the existence of a chalcolithic culture which shows certain differences from the Narmada pattern. At Nasik, on the south bank of the Godavari, were identified deposits of four periods, the lowest of which yielded microliths in association with a red ware of ochrous colour occasionally painted in black (below, p. 25). At Jorwe (District Ahmadnagar), on the north bank of the Pravara, a tributary of the Godavari, some bronze celts had come to light earlier. A regular excavation established its occupation only during the protohistoric times. Microliths and a red ware, sometimes imperfectly fired and often painted in black, but sometimes also stamped or incised, particularly on larger pots, constituted the main material of the culture. Although floral or animal designs are not altogether absent, linear and geometrical patterns form the main decoration in painting here. The most common types are a concave-sided bowl with round base (pl. VII C), a globular jar with short concave or long vertical neck and a spouted funnel-necked jar.

CENTRAL INDIA AND THE DECCAN

Cups, dishes, basins, jars and lids form other types. A few of these types also occur at Nasik in the chalcolithic period, although for the most part the pottery there is largely plain and of poor fabric.

It is, however, Nevasa, on the northern bank of the Pravara, which has yielded fuller details of the sequence of cultures in the Godavari valley. Excluding the prehistoric period, there are four periods at Nevasa, the lowest yielding microliths and implements of copper. The pottery is well-burnt with a red matt surface, often painted in black. Some of the pottery shows a thick orange-to-red slip, as in the Malwa Ware. The major types, including a spouted jar (pl. VII D), resemble those at Jorwe. There is also evidence of a grey ware, sometimes painted in red, and a black-and-red ware.

The dead were buried in urns, if children, and in pits, if adults, as on the Tapti (above, p. 23). The houses were built with grass-mixed clay and strengthened with reed; their floors were rammed with clay or lime, and the roofs laid possibly with reeds or bamboos covered with clay. Some clay-lined oval or oblong pits, found usually filled with ash, may have served a ritualistic purpose. There also existed unlined pits with post-holes on the periphery. But it could not be ascertained if they were used as dwellings.

Among three samples from the top levels of the protohistoric period at Nevasa, two have been dated by Carbon-14 to *circa* thirteenth century B.C. On the basis that the Jorwe Ware also occurs at Navdatoli (above, p. 21), the beginnings of the period may perhaps be assigned to the fifteenth century B.C. or even earlier.

Diamabad (District Ahmadnagar), on the northern bank of the Pravara, revealed a chalcolithic

PROTOHISTORIC REMAINS

settlement, divisible into three phases. A coarse grey ware, reminiscent of Brahmagiri I, occurred in Phase I. In Phase II occurred the Malwa Ware, while the Jorwe Ware made its appearance in Phase III. The remains of houses and burial-practices here were in general agreement with those at Nevasa.

The river Wardha, part of the arterial system of the Godavari, was also within the zone of the central Indian and Deccan chalcolithic culture. For at Kaundinyapura (District Amraoti), the habitation starts with copper, steatite beads and a black-painted red ware and is succeeded by a black-and-red ware occurring with beads of semi-precious stones. The black-and-red ware needs further investigation in view of the occurrence of megaliths not very far from the site.

Although the river Bhima is a tributary of the Krishna system, a chalcolithic culture also flourished on its banks, particularly in its upper reaches. At Chandoli on the bank of the Chod, a tributary of the Bhima, a single-culture site revealed all the equipment of the Godavari chalcolithic culture, with typical pottery, microliths, copper objects, houses of reeds or bamboos plastered with clay and provided with lime floors, lined pits containing ash and a clay cylinder and burial-urns. Apart from the Malwa and Jorwe Wares, the pottery included plain and red-painted grey, coarse red, cream-slipped and black-and-red wares.

It will be seen that even though there are several ceramic traditions in the chalcolithic period in central India and the Deccan, they were in mutual contact, and the essential pattern of life was homogeneous. The Jorwe Ware may perhaps have originated a little later than the Malwa Ware, for where both these wares occur, the former is higher in

CENTRAL INDIA AND THE DECCAN

horizon. Besides, Carbon-14 tests indicate that the protohistoric period at Nevasa came to an end in the thirteenth century B.C., whereas the top levels of the protohistoric horizon at Navdatoli are dated to the fifteenth century B.C.

In central India there is evidence of the protohistoric period gradually merging into the early historical, for on a large number of sites the black-and-red or black-slipped wares continue into the early historical period, in which the N.B.P. Ware is introduced in upper levels. The details of the process of this transmutation are, however, yet to be studied, particularly because on the sites excavated so far, there is often a long gap between the protohistoric and early historical periods.

8 WEST INDIA

The position in western India is by no means easy to comprehend at present. This part of the country has, however, recently come into prominence owing to the discovery here of the Harappan settlements. Unlike its eastern extension in Panjab and Uttar Pradesh, the end and transmutation of the Harappa civilization in this part of the country make a reasonable story.

The Harappans appear to have reached the western coast of India by sea. Lothal (District Ahmedabad), a comparatively large Harappan town, probably a provincial metropolis, lies about 3 km. from the Bhogavo river, which joins the Sabarmati, before emptying itself in the Arabian Sea, and about 16 km. from the nearest sea-point. The long occupation of Harappans here, resulting in the accumulation of a 6.5 m. high mound, is divided into two periods, A and B, without a break and with four phases in

PROTOHISTORIC REMAINS

the former. Period A represents the mature Harappa culture in its heyday, while Period B marks its later, somewhat decadent, continuation, which is approximately analogous with Period II B of Rangpur (below, p. 30). Almost all the known equipment of the Harappa culture is present at Lothal: inscribed steatite seals, stone weights, measuring-instruments of shell, clay sealings (pl. II B), pottery, terracotta 'cakes', ornaments of semi-precious stone, human and animal clay figurines, chert blades and bronze implements. Apart from the plain and painted red and buff wares, typical of the Harappa culture—the paintings containing animal-motifs which are absent in the Indus valley and were included here perhaps from the local fauna—pots were even burnt by inverted firing to produce a black-and-red ware, which, on the whole, appears to be different from the chalcolithic black-and-red ware of Rajasthan and central India. The discovery of a copper figurine furnishes evidence of metal-casting. The inhabitants made their living by agriculture, trade and even fishing, as suggested by copper fish-hooks. But in Period B the degeneration manifests itself not only in quality but also by limitation of the range of pottery-shapes and other objects and the disappearance of the animal figure from steatite seals. The goblet, beaker and perforated jar go out of use in Period B, while new types, like the bowl with a blunt-carinated shoulder and dish without carination, singly or on squattish stand, become popular. While the crane, stag, peacock, sparrow and snake formed the animal-motifs on the painted pottery of Period A, the deer, bull and peacock figured on the pottery of Period B. Long chert blades were now replaced by short parallel-sided blades of jasper and agate. A broken bronze object described as a

WEST INDIA

celt resembles the head of an anthropomorphic figure featuring among the Copper Hoards of the Ganga valley (above, p. 13). Even the houses in Period B show signs of re-use of earlier material, improvisation and absence of drains.

In Period A both mud-brick and kiln-burnt brick is used in houses, the former on a larger scale. The houses are provided with fire-places and bath-rooms and are lined on both sides of streets. Paved drains from the houses end in a soakage-jar. The drains are sometimes connected with covered public drains along the streets. A 50-m. long drain was found connected with eight bath-rooms at different points through subsidiary drains. Wells (pl. VIII A), private and public, supplied water. The streets were laid on a chess-board pattern and divided the town apparently into blocks. A systematic town-planning under some kind of municipal authority is, therefore, clearly suggested.

Lothal was subject to frequent floods and, therefore, soon after their arrival the Harappans raised mud-brick platforms, sometimes faced with a burnt-brick veneer, to secure their houses against floods. These platforms were raised and repaired repeatedly, and often even the houses were built on them.

Standing on a 4.5-m. high platform and built of sun-burnt bricks, one of the large structures consists of twelve square blocks, four on one side, and three on the other, with an 80-cm. wide channel between the blocks. At the north end of each channel was noticed a small drain of kiln-burnt bricks, while the red surface of side-walls and tops of blocks indicated a burning-operation or conflagration. The excavator takes this structure to be a kiln, where 'cakes', sling-balls and sealings were burnt in the

PROTOHISTORIC REMAINS

channels, as these were found here in large numbers. Gordon Childe regarded it as a record-room, where documents secured with sealings were stored. The purpose of the building is not quite clear, and the possibility of its being a small granary cannot be ruled out.

Another important structure at Lothal is a brick-built rectangular dockyard, 218×37 m., complete with a spill-channel (pl. VIII B), and a 7-m. wide inlet-channel connected with the Bhogavo, over which the boats appear to have been brought from the sea. Evidence of overseas trade with the Persian Gulf islands is provided by the discovery of a Persian Gulf (Bahrein) seal portraying a double-headed dragon flanked by a gazelle on either side (pl. II D).

The cemetery at Lothal is situated in the north-western corner. The burials in pits, with head on the north, are provided with funerary vessels, as at Harappa and Rupar (above, p. 8). The presence of two skeletons in some of the graves is unique. It may be remarked that a double-burial with two skeletons face-to-face has also been found in a megalith at Yelleswaram, opposite Nagarjunakonda, on the bank of the Krishna (below, p. 38).

Several samples of Lothal have been dated by Carbon-14 method. The middle levels of Period A are dated to *circa* 2000 B.C. and the lower levels of Period B to *circa* 1800 B.C. The entire occupation at Lothal, including Period B, may perhaps, therefore, be dated to *circa* 2200-1700 B.C.

Rangpur (District Surendranagar), on the Bhadar, about 50 km. south-west of Lothal, takes up the thread and reveals the later story of the Harappans. Remains of three periods are found here: microlithic, Harappan and post-Harappan, designated Periods I, II and III respectively. The microliths, of geometric and non-geometric forms, but unassociated

WEST INDIA

with any pottery, lie on a gravel-bed. The Harappan deposits are divided into three Phases, A, B and C, all of which contain material with Harappan affinities, such as characteristic pottery, terracotta 'cakes', copper objects and beads of semi-precious stones. A black-and-red ware also occurs throughout, as at Lothal.

But a gradual transmutation is also perceptible from Sub-period II A to Period III, noticeably in pottery. The characteristic shapes, like the dish-on-stand, convex-sided bowl, handled bowl and perforated jar, occur both in Sub-periods II A and II B, but other shapes, such as the goblet and beaker, go out of use in the latter. The fabric of the pottery also becomes coarser. In Sub-period II C new motifs in painting appear, such as the deer, duck and a bull with 'x'-shaped horns. Coarseness of fabric continues in Sub-period II C, but a new technique of burnishing is introduced, producing a lustrous red surface. In fact, it is the Lustrous Red Ware produced by burnishing with which the transmutation becomes apparent, while other objects also indicate a change in content and emphasis.

The metamorphosis is complete in Period III. The black-and-red ware continues, but it is the Lustrous Red Ware which now holds the ground. A terracotta figure of horse, an animal unknown to the Harappans, was also found in Period III.

Rangpur has been excavated so far vertically only to obtain the cultural sequence. Houses of mud-brick, with drains of kiln-burnt brick, and floors of hemp-mixed lime, have been noticed, but sufficient details of the lay-out of the town and structures are not available in the absence of a lateral excavation.

Rangpur has not been dated on any independent evidence, but two considerations have weighed with

PROTOHISTORIC REMAINS

the excavator in arriving at a chronology for Rangpur: first, that the 'brand' of Harappa culture even in its initial stages at Rangpur is indicative of a late phase of the culture as existing in the Indus valley, which is apparently its home, and, second, that Rangpur was perhaps occupied by the Harappans from Lothal, after they, or at least some of them, were forced to evacuate owing to floods there. The excavator has, accordingly, dated Period II to 2000-1000 and Period III to 1000-800 B.C.

Prabhas Patan (District Junagadh), near Somnath, where the entire deposit is divided into six periods, confirms the above picture generally. The two lowest periods here are chalcolithic. But even Period I, divided into A and B, indicates perhaps a stage contemporary with Period B of Lothal although containing certain influences from another direction. Period I A, has no confirmed Harappan affinity. But the pots are slipped in grey or red and contain incised, but not many painted, patterns. There are also segmented faience beads and microlithic blades. In Period I B both buff and red wares exist, the latter in a larger quantity. In Period I B the painted designs become more popular, but while the dish-on-stand, handled bowl etc., indicate the Rangpur Harappan tradition, the bowl painted in panels indicates some contact with the Malwa country. In Period II, which is to be regarded as equivalent to Rangpur II C, there is a transition to the Lustrous Red Ware.

Rojdi (District Rajkot), on the Bhadar river, has revealed three periods, the lowest being protohistoric. This period is divided here into two phases A and B. Among important shapes in Phase I A are the convex-sided bowl, handled bowl, perforated jar and dish-on-stand. The houses are built with

WEST INDIA

mud-brick and rest on mud-brick platforms raised for protection against the river. There exist also a coarse corrugated ware, microliths, copper and faience. In Phase I B there is a greater variety in painting and also the introduction of a white-painted black-and-red ware. The houses are built with mud on rubble-foundations. Some kind of Lustrous Red Ware appears in Phase I B.

9. EAST INDIA

The inclusion of east India on the protohistoric map of India is very recent. On several sites on the river Ajay, a black-painted red ware and a black-and-red ware, sometimes painted in white, were noticed. Not merely the wares, but certain shapes in them also suggested parallels with south-eastern Rajasthan and central India. The position is still nebulous, but in the Pandu-Rajar-Dhibi at Pandu (District Burdwan), on the south bank of the river, perhaps two main periods may be identified, one protohistoric and the other early historical, a sample from the former yielding a Carbon-14 date of 1012 ± 120 B.C.

Hand-made grey and red pottery with impressions of husk and small fragments of a black-and-red ware, along with a single fractional burial, were noticed in lower levels of Period I. In the upper levels was identified a shiny red ware, sometimes with a brownish surface, plain or painted in black, or rarely in cream. A stemmed bowl, recalling the one from Navdatoli (pl. VII B), is one of the types in the painted red ware with brownish surface. The black-and-red ware, often painted in white, included examples of channel-spouted bowl characteristic of central India, particularly Navdatoli (pl. VII A).

PROTOHISTORIC REMAINS

Bands, triangles, ladders, chevrons and other geometric designs, constitute the main repertoire of patterns. Microliths, including flakes with 'crested guiding ridge', and copper ornaments, such as beads and bangles, formed other equipment. There is some evidence of houses being built with wattle and daub and being plastered. The dead were buried in urns or in pits, and some of the funerary vessels are in the black-and-red ware. During the course of this period a large-scale conflagration took place, traces of which are recognized in a regular band of ash. The upper levels of this period also yielded some polished celts and a mother-goddess figurine in grey terracotta, with splayed hips and pin-hole decoration.

Apart from the black-on-red and black-and-red ware, even a grey ware preceding these wares has been noticed in central India, e.g., Bahal (above, p. 23). The burials are also generally in the same tradition. Whether these analogues arise from a mutual contact between eastern and central India or from a common source is yet to be seen.

10. SOUTH INDIA

The results of the excavations at Brahmagiri (District Chitaldrug) in Mysore in 1947, although vital and for the first time offering a reasonable picture of the early cultures of south India, had perhaps oversimplified the nature of the pre-megalithic cultures in south India. In all, a sequence of three cultures was identified there: Polished Stone Axe culture divided into two phases, Megalithic culture and the so-called Āndhra culture of historical times. Polished stone axes with pointed-butt, crude microliths, scanty copper and a coarse, grey, hand-made

SOUTH INDIA

pottery formed the main material of the first culture. In its earlier phase there occurred also some painted or incised sherds with a red or buff slip. With the later phase were associated burials in urns for infants and extended burials in pits for adults, which correspond in general, but not in detail, to the burials at Nevasa (above, p. 25), Tekwada (p. 23) and Nagarjunakonda. It may be recalled that even the thick grey ware at Bahal has some correspondence with the pottery from Brahmagiri.

Subsequently the excavations at Sangankallu (District Bellary), Piklihal (District Raichur), and T. Narsipur (District Mysore), the latter on the Kaveri, revealed that the basal neolithic culture of the south was a microlithic one which later embodied pointed-butt axes and pottery, perhaps some of the latter from the Deccan. At Maski (District Raichur), in Period I occurred microliths, copper and beads of semi-precious stones, with dull-grey, pinkish-buff, incised grey and red-slipped painted wares, confirming in outline the Brahmagiri pattern. No polished stone axe was recovered from these levels, although they were available in plenty on the surface. Besides confirming the general sequence already obtained at Brahmagiri, Maski, etc., the excavation at Piklihal, like Nagarjunakonda, was particularly useful in revealing details of the life of the neolithic people in the south. With the polished stone axes a thick burnished grey ware, sometimes incised, occurred also at T. Narsipur. Also present were clay 'neck-rests'. But what imparts significance to the site is the occurrence in the same levels of a thin burnished grey ware with the lips painted in red ochre, as at Bahal (above, p. 23), and of pieces of the Jorwe Ware. The Polished Stone Axe culture of the south is, therefore, evidently chalcolithic, and, in spite of its contacts with the

PROTOHISTORIC REMAINS

central Indian one, differs from it in details. The users of these stone axes were, however, no longer mere hunters but raised cattle and practised agriculture. Valuable light on their cattle-raising activity is provided by the excavation at Utnur (District Raichur), where the ash-mounds, the sites of the cattle-pens of these people, reveal a cycle of accumulation and burning of the dung and other material. A charcoal sample from here has yielded the Carbon-14 date of 2295±155 B.C.

The chalcolithic culture in the south, with its (neolithic) Polished Stone Axe element, is succeeded by the iron-using megalithic culture, which is not so far dated earlier than the third century B.C. Although the rest of the country had by now stepped well into the historical period, south India was still in some sense in a protohistoric stage, for the megalithic culture remained untouched by the cultural trends associated with the historical period over the rest of the country. In fact, the megalithic culture is still enigmatic, for little is known as yet of the everyday life of the megalith-builders. Chronologically they are not removed from the people who raised *stūpas* and religious establishments in about the second century B.C. at such places as Amaravati, and yet the two types of monuments have nothing in common in their art and architecture. The N.B.P. Ware found its way to the capital of Dhanakataṭaka in the neighbourhood of Amaravati but has not been reported so far from a burial or habitation-site of the megalith-builders.

Built of large stone, the megaliths are sepulchral monuments consisting of burials or graves. They have now come to light even in the Vindhya, south of the Ganga (above, p. 17) but in south India they

SOUTH INDIA

are spread practically all over and occur as far north as Nagpur.

Typologically they present a wide range, such as (a) a dolmenoid cist, a chamber of stone slabs, covered by a capstone and surrounded by a single or double stone circle, (b) a cairn-circle, consisting of a cairn or heap of stones over a burial pit, an urn or zoomorphic sarcophagus and surrounded by a stone circle, and (c) a transepted cist, with an antechamber, in which a port-hole communicates with the cist divided into two parts, the cist being often covered by a cairn and surrounded by a stone circle. There are several variations of these types. Since the stone used is local, dressed laterite has been used in the northern lateritic region of Chingleput and in Kerala. To the above types may be added barrows over urns or sarcophagi and burials in pits, sarcophagi or urns without a superstructure above or circle around them.

Some of the megaliths in Kerala are quite different. There are (a) multiple dolmens, some with port-holes, within a single stone circle, (b) port-hole cists, consisting of chambers of granitic slabs sunk in scooped laterite, some with a bench in the interior, (c) urn-burials marked by a capstone and enclosed within a stone circle, (d) menhirs, or single upright slabs over an urn-burial, (e) alignments of menhirs, (f) umbrella-stones or *topi-kals* or *kudai-kals*, as known locally, and consisting of four clinostats crowned by an umbrella-shaped stone (pl. IX A), (g) hood-stone with the umbrella-shaped stone resting directly on the ground, and (h) multiple hood-stone with a circle of clinostats without a capping-stone. There are also rock-cut caves, consisting of single or multiple chambers scooped into the rock and used as tombs.

PROTOHISTORIC REMAINS

Among the megaliths or associated burials excavated in south India at different sites so far are dolmenoid cists (pl. X A), cairn-circles over a pit, or sarcophagus or sarcophagi (pl. X B), urn-burial covered by a capstone and enclosed within a stone circle and burials in pits, urns or sarcophagi without a megalithic structure. These are at Brahmagiri (District Chitaldrug), Maski (District Raichur), Sanur, Kunnattur, Amirthamangalam (District Chingleput), Sengamedu (District South Arcot) Jadinghalli (District Bangalore), Nagarjunakonda (District Guntur), Yelleswaram (District Nalgonda), T. Narsipur (District Mysore) and Porkalam (District Trichur). There is a wide variation in the details of burials, largely fractional, except when in pits where the skeletons are often extended. At Yelleswaram, two skeletons were found lying face to face one over the other. Its sociological significance is as yet anybody's guess in view of lack of sufficient material, the only parallel coming from Lothal (above, p. 30). The two common factors of all the burials are the presence in them of funerary vessels of black-and-red ware and implements of iron. The habitations of the megalithic people have also yielded the same black-and-red pottery and iron implements.

Megaliths of several types, including those with port-holes, occur in several countries in the Atlantic and Mediterranean littoral, and they are dated in these regions between 2000 and 1500 B.C. A black-and-red ware, with certain shapes resembling those in the south Indian megaliths, also occurs in the graves in Nubia, dated to earlier than 1000 B.C. Chronologically, therefore, there is a vast gap between the western megaliths and Nubian graves on one side and the south Indian megaliths on the

SOUTH INDIA

other; the presence of iron in the latter also indicates a cultural advancement.

But the recent excavations of the megaliths in the Vindhya (above, p. 17) and earlier reports of such monuments in the Aravallis, near Jaipur and at Fatehpur-Sikri, may narrow down this chronological gap. For the Vindhyan monuments yield no trace of iron and appear for all purposes to be chalcolithic and earlier than the south Indian ones. The identity of the megalithic folk in India is controversial, but in the south they were perhaps not different from the Dravidian-speaking people. A full picture in terms of movements of people, ideas and traditions, explaining the differences and resemblances between the megalithic monuments in different regions, in and outside India, is, however, yet to emerge.

11. KASHMIR

From the south to extreme north is a big jump, but is justified by considerations of context, for in Kashmir, at the earlier-known but incorrectly-assessed site of Burzahom, 24 km. north-east of Srinagar in the same District, a neolithic culture is seen to be succeeded by a megalithic one, as in south India. Four periods have been identified here. The inhabitants of Period I used hand-made pottery with shades of grey, dull-red, brown or buff, with a burnished black surface, and polished tools of stone and bone, the latter particularly remarkable, but without any firm parallels yet as an assemblage. The dish, sometimes with provision for a stand, bowl, a globular pot, jar and funnel-shaped vase were among the common types of pottery. There were also some mat-impressed pots. The inhabitants

PROTOHISTORIC REMAINS

lived in pits dug into the *karewa*-bed. They are circular or oval on plan, wide at the bottom and narrower at the mouth, and are plastered with mud. Some of them are provided with cut steps and others with niches. Two of these pits were found connected by an arched passage. The largest pit excavated so far measured 2.75 m. in diameter at the mouth, 4.57 m. on the floor and 3.96 m. in depth. Charcoal, ash, pottery and tools were found in these pits. Post-holes occurred on the periphery of some of the pits, suggesting some kind of roofing-arrangement with wooden posts and thatch of reed and birch, the charred remains of which with burnt clay were found in some of the pits. Stone hearths and shallow storage-pits near the mouth of pits suggested that the pit-dwellers shifted to the surface in the summer.

In Period II, the dwellings were built with mud and mud-brick, and now often the mouths of filled pits were consolidated with mud and thin coat of red ochre and used as floors for the new dwellings over them. The pottery and tools of stone and bone become now refined, but there was no other substantial change. The bone tools of this period consisting of short daggers, points, awls, antimony-rods, chisels, needles with eyes and harpoons are particularly remarkable (pl. IX B). The discovered stone tools cover polished axes, harvesters, polishers, chisels, and mace-heads, all typologically different from the neolithic tools of south India. Two burials, one primary and another secondary, came to light in the closing stages of this period.

The essential pattern of life changed with Period III, when large menhirs were erected in deep pits cut into the floors of the dwellings of Period II. A rubble-wall, forming roughly a semi-circle on plan, also belonged to this period. The earlier pottery

KASHMIR

was now on the decline, a coarse but wheel-turned red ware came additionally into use. No burial associated with these megaliths was noticed. The site was occupied again in early historical times (Period IV), with which we are not concerned here.

Period I at Burzahom has yielded two Carbon-14 dates: 1850 ± 130 and 1540 ± 110 B.C, which indicate that the northern neolithic culture is perhaps later than the southern neolithic one.

Y. D. SHARMA

II. REMAINS OF EARLY HISTORICAL CITIES¹

CONTENTS

		PAGE
1. Introduction	...	43
2. Rupar	...	48
3. Ahichchhatrā	...	50
4. Hastināpura	...	52
5. Kauśāmbī	...	53
6. Rajghat	...	57
7. Rajgir	...	60
8. Patna	...	63
9. Vaiśālī	...	66
10. Ujjain	..	68
11. Eran	...	70
12. Maheswar and Navdatoli	..	72
13. Nasik	...	74
14. Nevasa	...	75
15. Tamluk	.	77
16. Bangarh	...	78
17. Chandraketugarh	.	79
18. Sisupalgarh	..	81
19. Arikamedu	..	83

1. INTRODUCTION

AMONG THE PEOPLES OF THE BRONZE AGE IN India, only the Harappans enjoy the distinction of being one who can be described as urban. In fact, their cities were deliberately planned and, in some respects, could serve as models even in

¹ For places mentioned in this chapter, see map, fig. 1, p. 42.

EARLY HISTORICAL CITIES

later times. Other protohistoric peoples, contemporary or later, lived in what could only be described as villages, large though some of them were, and were, in fact, on the way to growing into towns. In the north, in spite of fairly thick *débris* of the habitations of the Painted Grey Ware people, their houses are difficult even to identify; much less could they lay any claim to being recognized as components of cities. In central India, at Navdatoli, the plans of the protohistoric reed-*cum*-mud houses have been identified (above, p. 21), but the settlement can hardly be described as a town. Earthen ramparts and moats are known to some of these peoples, as at Eran (above, p. 22), but that alone is not sufficient to make a city.

In fact, it is difficult to define a city or to enumerate all its essential features. A planned lay-out, regular roads and streets, public drains, fortifications, markets, temples, monasteries, residences of the royalty and the nobility and, above all, houses of a reasonable standard are perhaps some of the elements which should distinguish an ancient city. In India, till recently the existence of kiln-burnt brick houses distinguished the town from the village, and this could serve as a yardstick even in classifying older habitations. Gymnasias, stadia and theatres are an essential feature of Greek cities, but not of the Indian ones.

The growth of a city presumes some kind of concentrated authority, be that of a king or an institution. Such authority came into being with the amalgamation of scattered communities under a common ruler and consequent growth of kingdoms, with the ruler's place of residence serving as the capital. Among early kingdoms were those of Avanti, Magadha, Vatsa and Kosala, and their

INTRODUCTION

capitals among the earliest cities. The formation of *janapadas*, or states, some of which are mentioned in early literature and sixteen of which are distinguished as *mahā-janapadas*, or 'major states', was another factor which transformed the rural pattern of life into an urban one. The growth of prosperity, trade and communications, too, gave the necessary fillip for enlarging smaller habitations into cities. Cities also grew around sacred places, and seven such sacred cities find mention in literature. Cities were often founded on the banks of rivers, not merely because they afforded easy means of communication or convenient supply of water but also because they were regarded as holy.

Several city-sites, some of them mentioned in literature, have been excavated in India. But few have been exposed laterally on a large scale to produce a full coherent picture. Nor has it been possible to trace the growth of a small habitation into a city by stages, although this could be achieved with extensive and planned horizontal excavations. In Panjab, finds of seals, sealings, coins and extensive remains of brick-built structures would entitle many a site to the status of a city, but these have not been adequately excavated. The excavation at Rupar (below, p. 48) too was limited in area, but it unfolded a successive series of structures and the wide retaining-walls of a large tank (pl. XI A).

In the Ganga-Yamuna *doāb* the excavated cities of Ahichchhatrā (below, pp. 50) and Hastināpura (pp. 52) are mentioned in literature. Housing-activity continued over a long period at these sites, while the excavation at the latter, although limited, demonstrated the rise of a town anew after its destruction

EARLY HISTORICAL CITIES

first by a flood, and at a later date by an extensive conflagration. The excavations at the sites of the other ancient cities, such as Mathura, were directed towards uncovering the remains of religious establishments and recovery of sculptures and other objects without an eye on the habitational aspects.

The central Ganga basin was the home of Vatsa and Magadha kingdoms. Several of its cities figure prominently in literature, and some of them are associated with the life of Buddha. Kauśāmbī (below, p. 53), Vārāṇasī (modern Rajghat, p. 57), Rājagriha (modern Rajgir, p. 60) Pāṭaliputra (modern Patna, p. 63) and Vaiśālī (p. 66) are some of the excavated cities in this region. Among these, the beginnings of Kauśāmbī and Vārāṇasī extend almost into the protohistoric times.

The ancient kingdom of Avanti lay in central India. Ujjayinī (modern Ujjain, below, p. 68), referred to in the *Periplus of the Erythraean Sea*, and Vidiśā served as its capital at different times. In fact, even Māhishmatī (identified with modern Maheswar, p. 72) lays a similar claim and was the southern capital of Avanti. In central India and the north Deccan, the rivers Narmada and Godavari have been regarded as sacred as the Ganga and Yamuna in north India, and some of the ancient cities were located on their banks, e.g., Māhishmatī on the Narmada, and Nāsikya or Nāsika (modern Nasik, below, p. 74) on the Godavari, the beginnings of both extending into the protohistoric period. On most of the excavated sites in this region there is a long gap between the protohistoric and early historical occupations and constitutes at present a kind of dark age. Eran (ancient Airakīṇa, below, p. 70) was no doubt an important town in the Gupta period, but the urban aspects of its historical period

INTRODUCTION

have not been investigated, the present interest being directed towards its protohistoric culture (above, p. 22). Cities in this region also had trade contacts with Rome, as evidenced by the Red Polished Ware, derived from the Samian Ware, coins and occasional finds of other antiquities. Both in central and western India, it is in the early centuries of the Christian era that the habitations seem to take on the character of a town.

In eastern India, the ancient port of Tamluk (below, p. 77) is referred to in literature and is also mentioned by Ptolemy under the name of Tāmalites. The excavation here yielded the Rouletted Ware and other Roman pottery, beautiful Śuṅga terracotta figurines and remains of a deep stepped tank. But the site is too disturbed to yield a complete lateral picture. Bangarh (below, p. 78), ancient Koṭivarsha or Devīkoṭa, and Chandrakhetugarh (p. 79) provide, however, a sampling of the dwellings and articles of everyday use in this part of the country.

In the upper region of the Eastern Ghats, examples of fortified townships may be noticed at Jaugada and Sisupalgarh (below, p. 81), both known for the edicts of Aśoka, and the latter identified with Tosali of the edicts and Kaliṅganagara of Khāravela's inscription in the neighbouring Khandagiri and Udayagiri hills.

In the Āndhra country, famous cities existed on the river Krishna in early historical times. Such are Nagarjunakonda and Amaravati, both better known for their Buddhist establishments (below, p. 104). Some idea of habitation and material equipment in the Sātavāhana times is provided by the excavations at Brahmagiri, Isila of Aśoka's local edicts, and several other cities. In peninsular India, Arikamedu (below, p. 83) has revealed fascinating

EARLY HISTORICAL CITIES

evidence of trade with Rome and remains of several structures, including a ware-house.

Now follows a brief description of some of the excavated city-sites.¹

2. RUPAR

Rupar lies on the left bank of the Sutlej in Ambala District at the point where the river sweeps into the plains from the hills. The site was excavated by the Archaeological Survey of India from 1953 to 1955, under the direction of Dr. Y.D. Sharma.

Six periods have been identified at Rupar from Harappa times to almost the present day, with occasional gaps. The first two periods, covering the Harappa and Painted Grey Ware cultures, have been dealt with earlier (above, p. 8).

A new settlement (Period III) sprang up here by about 600 B.C., and a coarse grey pottery, clearly devolved from the Painted Grey Ware tradition, with which it shares many characteristic shapes, was now in use. Associated with it is a homogeneous assemblage of the N.B.P. Ware and plain red wares. These earliest historical levels, dated to *circa* 600-200 B.C., also yielded punch-marked and uninscribed cast coins, copper and iron implements and an ivory seal inscribed in Mauryan Brāhmī characters. The fine workmanship and the well-known polish associated with the Mauryans is to be seen here on a small scale on a polished disk minutely carved with figures and motifs associated with the cult of the goddess of fertility (pl. XVI B), recalling similar stones from Taxila, Patna and elsewhere. Slabs of *kankar*-stone set in mud-mortar were used for

¹ The author has adapted some of these descriptions from his article 'Exploration of historical sites', *Ancient India*, no. 9 (1953), pp. 116-69.

buildings in this period as in the Harappa times, although houses of mud and kiln-burnt bricks were by no means rare. A 3·6-m. wide burnt-brick wall, traced to a length of about 75 m., proceeds in a curve at the exposed ends and in all likelihood enclosed a tank, which collected water through inlets (pl. XI A). The upper levels of this occupation are characterized by soak-wells lined with terracotta rings.

The next occupation (Period IV) covers the rule of the Śūngas, Kushans, Guptas and their successors, from *circa* 200 B.C. to A.D. 500, and reveals successive building-levels. There is no dearth of datable objects in these levels, such as the Indo-Greek, tribal and other coins. In the upper levels were found a large hoard of copper coins of Kushan and Gupta rulers, including a gold issue of Chandragupta-Kumāradevi type. There are terracotta figurines in Śūnga, Kushan and Gupta styles, comprising, among others, *yaksha* figures with cherubic expression (pl. XV A) and a beautiful seated figure of a lady playing on the lyre reminiscent of Samudragupta's figure in a like position on his coins. A set of three silver utensils of ritualistic use, although Greek in type, shows Gupta craftsmanship in its chased decoration. A number of terracotta sealings in characters of the fourth-fifth centuries provide the upper date for the period. The pottery of these levels is for the most part red and is frequently decorated with incised or impressed motifs, natural or religious. Periods III to V are fairly rich in dwellings, with houses of stone and mud-brick. The full plans of these houses could not, however, be exposed owing to the vertical nature of the excavation.

After perhaps a short break, there is evidence of a new occupation (Period V) commencing about the early sixth century and lasting for two or three

EARLY HISTORICAL CITIES

centuries. But by this time the occupation had become confined to the southern part of the site where the present town lies. Coins of Toramāṇa (*circa* A.D. 500) and Mihirakula (*circa* A.D. 510-40) have been recovered from these levels. The spacious brick buildings of this period were constructed neatly and suggest a good measure of prosperity. Again, possibly after a desertion, a new town (Period VI) sprang up here about the thirteenth century and continues to flourish to this day, although the sequence may be closed with a terminal date of A.D. 1700 to separate the archaeological material from recent accumulations. Pre-Mughal glazed ware, *lakhaurī* bricks and Muslim coins found on surface and in top fillings form the main evidence of this occupation.

3. AHICHCHHATRĀ

Ahichchhatrā, the capital of the north Pāñchāla according to the *Mahābhārata*, near the village of Ramnagar (Bareilly District), was excavated superficially by Cunningham, including a mound 3 km. west of it, which is supposed to conceal a *stūpa* built by Aśoka. The more extensive and important work, was, however, carried out here by the Archaeological Survey of India during 1940-44, under the direction of Rao Bahadur K.N. Dikshit and Shri A. Ghosh. The chief value of the work lies in the fact that for the first time a beginning was made here for the classification of pottery of historical times.

The thick accumulations of Ahichchhatrā revealed nine 'strata', ranging in date from prior to 300 B.C. to *circa* A.D. 1100. Although the presence of the Painted Grey Ware was noticed in the lowest levels at one of the excavated sites, the area excavated

AHICHCHHATRĀ

was so small that the priority of the Painted Grey to the N.B.P. Ware could not be asserted, though it appeared probable.

In Period I of the main excavated site, dated prior to 300 B.C., no structure was met with, but Period II, *circa* 300-200 B.C., revealed some mud-brick buildings and the presence of the N.B.P. Ware. Mud-brick houses continued in Period III, from *circa* 200 to 100 B.C. The first structures of kiln-burnt bricks were noticed in the succeeding levels, Period IV, of the first century B.C., when the city was also fortified by a 5.5-km. long peripheral brick defensive wall over two earlier earthen ramparts. Pāñchāla coins were numerous in this period and continued in Period V, to the end of the first century A.D. Kushan coins were found in Period VI, *circa* A.D. 100-350. In the next period, VII, *circa* A.D. 350-750, was encountered a temple complex, with large-sized Brāhmaṇical images of baked clay, the lower levels of the period also yielding coins of Achyu, identified with Achyuta, defeated by Samudragupta in *circa* A.D. 350. Periods VIII and IX, dated to *circa* A.D. 750-850 and 850-1100 respectively, showed poor buildings, and in the upper levels of the latter period were found coins of Ādivarāha and Vighraha. Ahichchhatrā was particularly rich in terracottas throughout its long existence. Among terracottas of the Śuṅga period the *mithuna* figures (pl. XV B) form a leading class.

Elsewhere in the fortified area were identified two large terraced temples, one illustrated (pl. XI B), having their origin in Gupta times and continuing in use till the end of the city in the twelfth century, by which time, according to inscriptional evidence from elsewhere, the capital of Pāñchāla moved to Vodāmayūtā (modern Budaun).

4. HASTINĀPURA

Hastināpura, the legendary capital of the heroes of the *Mahābhārata*, is identified with a village and its neighbouring mounds bearing the same name in Meerut District. Situated on a deserted bank of the Ganga, these mounds were excavated in 1950-52 by the Archaeological Survey of India, under the direction of Shri B.B. Lal. They fully corroborated the ceramic sequence of Ahichchhatrā, apart from revealing the true stratigraphic position of the Painted Grey Ware.

The occupation of Hastināpura is divided into five periods, the earlier two of which have been described above (p. 10). The Painted Grey Ware culture was brought to an end here by an extensive flood identified by the excavator with the one which, according to the tradition recorded in the Purāṇas, was responsible for the shifting of the capital from Hastināpura to Kauśāmbī. A town (Period III) sprang up here anew, the characteristic industry of which, from the early sixth to the early third century B.C., is the N.B.P. Ware, with which occur punch-marked and uninscribed cast copper coins, copper and iron implements, beads of semi-precious stones, bangles of copper, rings of copper and semi-precious stones and terracotta animal and human figurines. The houses are built of both mud and kiln-burnt brick. The soakage-pits were lined with burnt clay rings or fitted with series of jars vertically arranged. About 250 B.C. this entire township was destroyed by a large conflagration, which has left its scar over a wide area.

The site was re-occupied (Period IV) about 200 B.C., after a temporary break, as evidenced by the

HASTINĀPURA

presence of the coins of the Mathura kings, Yaudheyas and Kushans. Terracottas in Śuṅga and Kushan idioms, copper, ivory and iron objects, beads and rings, inscribed potsherds and a seal were recovered from the levels of this period. The brick-buildings of this period reveal a thickly-populated township, with seven structural phases being traced in a trench. The pottery in use was a red ware, often stamped with symbols. The upper levels also yielded specimens of a red ware painted in black, analogous to the Rangmahal Ware of Rajasthan. In the upper levels, dated to *circa* A.D. 300, were discovered imitation coins of the Kushan king Vāsudeva. The site was deserted again for an unknown reason, and re-occupied from about A.D. 1100 till the end of the fifteenth century (Period V). In the middle levels of this period was found a coin of Balban (A.D. 1266-87) and in the upper levels the pre-Mughal glazed ware.

5. KAUSĀMBĪ

Kausāmbī is mentioned in the later Vedic literature as the capital of the Vatsas. It is referred to also in other Sanskrit and Pāli texts and was visited by the Chinese pilgrims Fa-Hien and Hiuen Tsang. According to the Purāṇas, Hastināpura, the capital of the Pāṇḍavas, was swept away by floods at the time of Nichakshu, fifth in descent from Parikshit, the grandson of Arjuna. The capital was then shifted to Kauśāmbī identified with modern Kosam, 52 km. south-west of Allahabad, on the northern bank of the Yamuna. Although the excavation has revealed no definite indication to confirm this tradition, there is ample evidence to support Buddha's association with Kauśāmbī, referred to in the

EARLY HISTORICAL CITIES

Buddhist texts. A small-scale excavation was conducted here by the Archaeological Survey of India in 1937-38. And now, since 1948, the University of Allahabad has been excavating uninterruptedly under the direction of Professor G.R. Sharma.

Among the excavated historical cities in north India, Kauśāmbī is one of the earliest, if not the earliest. On ceramic evidence, the 16-m. thick deposit here, revealing twentyfive structural phases, has been divided by the excavator into four periods. Of these the first two periods have been discussed above (p. 14). The distinctive pottery of Period II, consisting of a decadent painted grey ware, quite different from the Painted Grey Ware of Rajasthan, Panjab and western Uttar Pradesh, and of red and black-and-red wares, the latter sometimes painted in white and superior to the black-and-red ware of Period I, belongs to a historical period, dated to 885-600 B.C. by the excavator, rather than to a protohistoric one. Iron occurs here almost from the beginning of the site. The introduction of the N.B.P. Ware marks the beginning of Period III. Not only the painted grey ware still continued, some of the N.B.P. Ware was also painted. Side by side occurred plain or painted pots in red or dull-red wares. The N.B.P. Ware completely disappeared in Period IV. The excavator has dated Periods III and IV to *circa* 605 to 45 B.C. and 45 B.C. to A.D. 580 respectively, on the same basis of calculations as the earlier periods.

Of an area of more than 20 sq. km. a large part here is enclosed within a roughly rectangular massive fortification-wall 6.5 km. in circuit, which was begun in Period I but was repeatedly repaired or added to in four succeeding main stages, all falling within the historical period. Originally the defences

KAUŚĀMBĪ

consisted of a mud rampart-wall, with a burnt-brick revetment on the exterior laid in batter (pl. VI B). They were raised and a subsidiary rampart laid at the beginning of Period II, coeval with the fifth structural phase. The N.B.P. Ware appeared in the ninth structural phase, which was also the last phase in the first stage of the construction of the defences. In its second stage, the rampart was raised, and another secondary rampart was laid outside the first one. Guard-rooms, bastions, and a stone-paved corbelled drain were also added now. Subsequently, in the third stage, there was further extension of the rampart, and it was during this period that a human sacrifice is believed to have been performed immediately outside the fortifications. Additions and alterations continued in the fourth and fifth stages. The defences fell into disuse by the end of the twentyfourth structural phase, when the town was destroyed by Toramāṇa in about A.D. 515.

The altar believed to have been laid for the human sacrifice is situated outside the eastern gate at the foot of the defences. It is in the form of an eagle (*śyena-chiti*) flying towards the north-east. Here the discovery of a fire-place, animal and human bones, including a human skull, and certain details of construction are taken to answer to the descriptions of such altars in the *Śatapatha Brāhmaṇa* and other ritualistic texts. The sacrifice is believed to have been performed by the founder of the Mitra dynasty, whose coins have been recovered in abundance from corresponding levels.

In the south-western corner of the site, an extensive stone palace, covering an area of 315 by 150 m., has been uncovered recently. It shows three main phases (pl. XII A). In the earliest phase, the palace was built of rubble, perhaps plastered. In the second

EARLY HISTORICAL CITIES

phase a dressed stone facing was provided to the walls. Subsequently, the palace was destroyed, and when it was reconstructed, in the third and last phase, its walls were raised in brick but provided with a facing of dressed stone. There is use of lime both for plaster and as mortar. The palace consists of halls flanked by rooms, which are connected by openings spanned by the true arch. It was built, according to the excavator, before the use of the N.B.P. Ware, which appears to be on the decline during the third and last phase of the palace. The excavator believes that the palace may have been built by king Udayana, a contemporary of Buddha. If the early date assigned to the palace is confirmed by further evidence, our present ideas, which assume that ashlar masonry was introduced in India by the Greeks and true arch by the Muslims, would need important modifications.

One of the most important discoveries at Kauśāmbī—confirmed by inscriptional evidence—is that of the Ghoshitārāma monastery, built, according to the Buddhist tradition, by the merchant Ghoshita for Buddha. It was the scene of many a sermon by Buddha and is described in detail by Hiuen Tsang. The monastery consisted of a courtyard with rooms on the interior and a large *stūpa* in the courtyard. It shows several rebuilding phases and contains also a shrine of Hārītī.

Uninterrupted strata of occupation with a unique mass of datable objects in the later periods have turned up year after year at Kauśāmbī. That the site was subjected to destruction by the Hūnas is clear by a seal counterstruck with the name of Toramāṇa and another bearing the appellation *Hūnarāja* ('king of Hūnas'). A seal of Kanishka was another interesting discovery. After the Hūnas, a hitherto-unknown

RAJGHAT

dynasty of kings with their name ending in *datta*, such as Dhruvadatta and Śivadatta, appears to have ruled here. Among other objects found at Kauśāmbī are a rich range of sculptures, human and animal terracotta figurines, coins, moulds, beads and bangles, sealings, ivory objects and iron implements.

6. RAJGHAT

The ancient town of Vārāṇasī was one of the sixteen *mahā-janapadas*, or 'major states', and a great city from the earliest historical times. It was, however, an accidental discovery that in 1940 disclosed its original location, to the north of the present town of Varanasi (Banaras), for the removal of earth here for reconstructing the railway-station at Rajghat brought to light several ancient structures and other relics comprising clay sealings, terracotta figurines and pottery, including the N.B.P. Ware. The site lies between the Varuna and the Ganga, on the bank of the latter. The top deposit of 4 m. had already been removed by the contractors by the time the Archaeological Survey reached the scene for salvage-operations, which exposed, among other brick structures, a large temple-hall supported on twelve pillars.

The Banaras Hindu University have been now excavating at Rajghat off and on from 1957-58 under the direction of Dr A.K. Narain. These excavations have revealed a continuous sequence of six periods, from before the N.B.P. Ware to late medieval times, which should serve as an index for this region.

Period I, dated from *circa* 800 to 200 B.C. and divisible into three phases, is characterized by the black-and-red, black-slipped and a fine hard grey ware recalling the Painted Grey Ware fabric. A

EARLY HISTORICAL CITIES

few microliths also are found. The N.B.P. Ware is introduced in the middle phase but shows signs of decadence in the upper phase. Iron appears to be absent in the lowest phase. Beads of terracotta, glass, semi-precious stones and copper are found throughout the period, while cast copper coins make their appearance in the uppermost phase. Mud-walls and ring-wells are the only evidence of dwellings. But a massive mud-rampart consisting of rammed compact clay of brownish colour, lying almost on the natural soil belongs to the middle, if not the earliest, phase of this period. Subsequently, the inhabitants appear to have excavated a channel connecting the Varuna with the Ganga, so that an effective barrier of water was formed all around the town.

In Period II, covering the two centuries preceding the Christian era, the N.B.P. Ware and the grey ware continued in diminishing use. The black ware went out of use, while a red ware became popular. Uninscribed cast copper coins and terracotta seals, some of them bearing names ending in *mita*, like Revatimita, in the characters of the second-first centuries B.C., help to date this period securely. The discovery of a hoard of more than one thousand bone points, including arrow-heads, was significant. There was considerable housing-activity in this period (pl. XII B). The kiln-burnt brick was in full use. The excavation exposed a house with two rooms, complete with bath and a wall, and hearths, a long drain and some ring-wells in other parts.

A red ware, often stamped with designs and symbols like *tri-ratna* and *dharmachakra*, as at Rupar, Ahichchhatra and Hastinapura, occurred in Period III, dated from the beginning of the Christian era to the end of the third century. This

RAJGHAT

period is rich in terracotta seals and sealings, one of which bears the design of a humped bull inscribed with the word *pushkarana*, palaeographically datable to the second century A.D. Amongst the names on the seals, Harishena occurs on several of them. Copper coins, beads of clay, glass and semi-precious stones, votive tanks, figurines, skin-rubbers and bangles of glass were other objects of this period. Walls of several structures of this period were also exposed.

Inscribed seals, sealings and copper coins continued in Period IV, dated to *circa* A.D. 300-700. The pottery in this period was manufactured in both red and black colours. An easily-identifiable type is furnished by the long-necked 'sprinkler'. Particularly attractive are a terracotta head of Buddha and other figurines. Brick-built structures in this period are many, and they include square *kundās* or tanks with widening sides and a brick-edged platform associated with an apsidal structure. Earthen jars containing human bones, grains and cowries formed evidence of some post-cremation burials. A kitchen, complete with oven and storage-jars, was another interesting discovery.

Period V is dated from the ninth to the twelfth centuries. Evidence of dwellings in this period was flimsy, but architectural activity in another direction appears to have increased, as suggested by the discovery of *amalakas* and other architectural pieces from temples.

Architectural pieces of stones continued in the sixth and last period, from the beginning of the twelfth to the end of the seventeenth century. It is characterized by the use of small *lakhauri* bricks and glazed pottery. The deposits of this period also yielded coins of the Sūr ruler Islām Shah (1545-54) and of Akbar (1556-1605).

7. RAJGIR

Rajgir, about 100 km. south-east of Patna, was known anciently by several names, Rājagṛiha being one of the latest and more popular. Among the excavated city-sites of historical period, it is one of the earliest. According to the *Mahābhārata*, Jarā-sandha, an adversary of the Pāṇavas, ruled here. In more historical days it was the capital of Magadha, and Buddha visited it frequently during the reigns of Bimbisāra (circa 543-491 B.C.) and his son Ajātaśatru (circa 491-459 B.C.). The First Buddhist Council was also held here soon after his death. Mahāvīra, the last Jaina Tīrthāṅkara, is said to have passed several rainy seasons here, and the Jainas hold it holy also as the birth-place of their twentieth Tīrthāṅkara, Muni Suvrata. Jaina temples continue here till this day.

The earlier excavations at Rajgir from 1905-06 by the Archaeological Survey of India consisted mainly of clearance and identification of its various features, such as neighbouring woods, hills and caves, with those mentioned in Indian literature and the accounts of the Chinese pilgrims Fa-Hien and Hsuen Tsang. Situated as it is in a long valley, the natural defences provided by the engirdling hills here were first strengthened by raising a high rampart of rubble running over the hills, about 40 km. in circuit (pl. XIII A). A smaller citadel inside it, pentagonal in shape, was later encircled by an earthen wall of rubble-core. Outside the valley, another fortified town, known as New Rājagṛiha, is believed to have been built by Ajātaśatru.

In the valley, within the inner fortification, excavations have brought to light several structures. One of these, square on plan, is identified with

the prison, from where, Bimbisāra, although confined within it by his son, Ajātaśatru, could behold Buddha on the Gṛidhrakūṭa hill, which was his favourite resort. A stone-paved pathway, ascending the Gṛidhrakūṭa, regarded as part of an ancient fortification by John Marshall, is believed to have been built by Bimbisāra. The site of Jīvākāmravana, where Jivaka, the court-physician of Bimbisāra, is believed to have erected a monastery for Buddha, was excavated recently and revealed several elliptical halls, perhaps parts of monasteries. A wall of blocks of stone to the south of the road to the Gṛidhrakūṭa, hitherto taken as part of an inner periphery for the city, turned out to be the embankment of a large reservoir, identified with the ancient Sumagadhā.

Maṇiyār-Maṭh, a hollow cylindrical brick structure in the centre of the valley, surrounded by a stone compound-wall, was found to have been built over earlier stone buildings. It was enlarged several times, including in the late Gupta period, when niches were provided on its outer face for accommodating Brāhmaṇical images modelled in stucco. Among the sculptures found around it is a sculpture with *nāga* figures inscribed with the name Maṇināga, a serpent-deity whose shrine at Rajgir is mentioned in the *Mahābhārata*.

On the Vaibhāra hill a stone structure known as the *machān* ('watch-tower') or Jarāsandha-ki-Baithak, is identified with the residence of Pippala of the Buddhist texts, and a group of caves with the Saptaparnī, where the First Buddhist Council was held after the death of Buddha. Outside the hills on the north lies the Veṇuvana, where a large dried-up low land is taken to be the Karaṇḍa tank of literature. The excavations in this area revealed the remains of several *stūpas* and sculptures.

EARLY HISTORICAL CITIES

In recent years isolated areas of the site have been excavated on scientific lines. A scraping carried out by Shri A. Ghosh in a section cut by a rivulet yielded interesting data. The occupation suggested a sequence of four periods, but whether this would hold good for the entire site is yet to be seen. The lowest signs of habitation showed fragmentary dull-red sherds and above them was a clear deposit of the N.B.P. Ware, assigned to *circa* 500-200 B.C. The third and fourth periods, in which the N.B.P. Ware was absent, were dated respectively to the first century B.C. and the first century A.D. A hitherto-unknown type of post-cremation burial came to light in the lower levels yielding the N.B.P. Ware: a pit with an elliptical bottom and an additional cylindrical base was first dug and lined with clay; then the bones left after cremation were interred in it, and the hollowed-out 'urn' sealed with clay again.

Recently the ramparts of the New Rājagriha, supposed to have been built by Ajātaśatru, have been excavated and have suggested three successive periods of occupation. Over a scanty deposit of the N.B.P. Ware, found in association with a red ware (Period I), lies a mud-rampart (Period II A), over which a brick-wall was added later (Period II B). After the collapse of the brick-wall, the rampart was heightened by a thick deposit of earth and ash (Period III A) and strengthened again on top by walls of brick-bats (Period III B). The excavation, under Shri Raghbir Singh, is still in progress and further work may modify the above picture, obtained from a single trench.

PATNA

8. PATNA

Among the ancient cities of the central Ganga basin, Pataliputra, modern Patna, occupies an important place. Ajātaśatru's successor, Udayin (*circa* 459-443 B.C.), transferred the capital of Magadha to this place from Rājagriha, and the Third Buddhist Council during Aśoka's rule was held here. It continued to be the capital under the Mauryas, and Megasthenes, the Greek envoy at Chandragupta's court (*circa* 322-298 B.C.), describes it as a flourishing city on the confluence of the Ganga and Son, 14.5 km. in length and 2 km. in width, enclosed by a wooden palisade, which was pierced with loopholes for discharging arrows. Below the rampart ran a defensive ditch which also carried the sewage of the city.

The high water-table and the location of the present city largely on the ancient settlement have not permitted lateral excavations here on a large enough scale. But several isolated sites have been dug up from time to time, apart from the accidental discoveries of pottery, terracottas, carved ring-stones and beads, all ranging on stylistic grounds from the Maurya to Gupta periods. Kumrahar and Bulandibagh were excavated as early as 1912 to 1915 by the Archaeological Survey of India, while the K.P. Jayaswal Research Institute, Patna, excavated at Kumrahar and certain other sites in recent years under the direction of the late Dr. A.S. Altekar and Shri V.K. Mishra on behalf of the K.P. Jayaswal Research Institute.

A sequence of five periods, the earlier four running without break from *circa* 600 B.C. to A.D. 600 and the fifth beginning from A.D. 1600, was revealed by the excavations in four isolated areas in 1955-56.

EARLY HISTORICAL CITIES

The distinctive pottery of Period I (*circa* 600-150 B.C.) was the N.B.P. Ware, associated with red and grey wares, large storage-jars being made in a coarse red ware. Iron implements, terracotta animal figurines and bone points were some of the other objects in use in this period. Certain fragmentary architectural pieces of sandstone bore a high polish, usually associated with the Mauryan workmanship. In the upper levels could also be noticed some structures of kiln-burnt bricks.

In Period II (*circa* 150 B.C.-A.D. 100) the same ceramic industries continued, with degeneration in their fabric, and diminution in the quantity of the N.B.P. Ware. Punch-marked and cast coins, including the Kauśāmbī 'lanky bull' type, and stone and terracotta seals bearing symbols were some of the new articles in use, indicating trade and prosperity. Bricks and tiles were used now for houses, and ringed soak-wells for disposal of refuse and sullage.

The N.B.P. Ware went out of use in Period III (*circa* A.D. 100-300), and the pottery was now generally red or grey. Coins, terracotta figurines, sealings, etc., continued in use. A gold amulet fashioned after the coins of Huvishka, with legend on one side and the figure of the Greek goddess Ardochsho on the other, is particularly interesting. Period IV (*circa* A.D. 300-600) yielded plain red ware and terracotta figurines, including figures of Naigameśa. There were also other objects of Gupta craftsmanship. After a long break the site was occupied again in about 1600 (Period V). Glazed pottery, glass beads, ivory dice and a coin of Shāh 'Ālam were recovered from the levels of this period.

During the excavations of 1912-15, below some brick structures assigned to the Gupta period, eighty heaps of polished stones, in eight rows of ten heaps

PATNA

each, with an interval of 4·5 m. from heap to heap, were discovered at Kumrahar amidst a deposit of charcoal and ash. This was taken by the excavator, D.B. Spooner, as the remains of a pillared hall of Mauryan date, the wooden superstructure of which was assumed to have caved in as a result of a conflagration, leaving an ashy deposit. To the south of this hall were discovered seven wooden platforms, each 9m. long, 1·5m. wide and 1·2 m. high, but their purpose remained unascertained. Spooner ascribed a Persepolitan origin to the hall and put forth the astounding view that the pillars of the hall had sunk—in fact, were probably still sinking—deep into the soft slimy earth underneath. The recent excavation here by the K.P. Jayaswal Research Institute revealed a pre-structural phase, the structures starting from *circa* 150 B.C., and established that the missing pillars, or the surviving stumps thereof, were removed during the middle of the second century B.C. after the conflagration. The hall had eightyfour pillars, eighty in the main hall and four at the entrance, and they rested on wooden bases, which distributed their load. A canal coming from the east in the same alignment as the wooden platforms discovered by Spooner was also noticed. An enormous brickwork and structures from the Mauryan to late Gupta times also came to light in this excavation and included a monastic establishment, known as Ārogya-vihāra, according to a clay sealing, and an apsidal structure with a circular *stūpa*, which was rebuilt on a square plan at a later date. Also there were coins, beads and terracotta figurines, those from Gupta levels being particularly charming (pl. XVI A).

At Bulandibagh, again below some brick buildings of Gupta date, was found in 1926-27 a unique

EARLY HISTORICAL CITIES

wooden construction, consisting of a series of 4.25 m. long wooden planks at bottom, flanked by 4.5 m. high wooden uprights, which were spanned on top by tenoned planks, the entire arrangement making a hollow passage. This structure was uncovered to a length of 75 m. without reaching its end. Its was identified with the wooden palisade mentioned by Megasthenes. A similar wooden structure, without, however, the bottom planks, also came to light accidentally at Gosain-khanda, half a mile east of Bulandibagh.

9. VAIŚĀLĪ

Vaiśālī, mentioned in the *Rāmāyaṇa* and in the Buddhist literature, is reputed as the birth-place of Mahāvīra and the capital of oligarchical Lichchavis from early times. It was the scene of the Second Buddhist Council held about a hundred years after Buddha's death. A pillar erected by Aśoka also exists in its neighbourhood. Vaiśālī is identified with what was till recently known as Basarh (District Muzaffarpur of Bihar) and was excavated earlier, in 1903-04 and 1913-14, by T. Bloch and D.B. Spooner of the Archaeological Survey of India, when the discovery of seals engraved with the name of the city as Vaiśālī confirmed the earlier identification. In 1950 it was excavated on a larger scale by Shri Krishna Deva of the Archaeological Survey of India, under a scheme of the Vaiśālī Sangh. Further excavations between 1957 and 1961 were carried out by the K.P. Jayaswal Research Institute first under the late Dr. A.S. Altekar and later under Shri Sita Ram Roy.

According to literary tradition, Vaiśālī had three city-walls. Two of these have been identified:

VAIŚĀLI

while the main mounds are enclosed within a large rectangular mud-built enclosure, known as Rājā-Viśāl-kā-Gaṛh, another rampart outside it has been traced over a long stretch. There are remains of several *stūpas* inside and outside the fortifications.

The occupation at Vaiśālī is divided into four periods from *circa* 500 B.C. to A.D. 500. Period I is divided into two sub-periods, A and B. Period I A is characterized by black-and-red and red wares in association with the N.B.P. Ware, iron objects and bone arrow-heads. No trace of a dwelling was found in this sub-period, but in Period I B, dated from 300 to 150 B.C., kiln-burnt bricks were in use. A grey ware now made its appearance, although the N.B.P. Ware continued. Beads of semi-precious stones and terracotta figurines of *nāgas* occurred in these levels for the first time.

In Period II, 150 B.C. to A.D. 100, there was considerable structural activity. Some sherds of the N.B.P. Ware were also recovered. Punch-marked and cast copper coins and a steatite votive plaque with representation of a mother-goddess were other objects found in these levels.

Period III, dated from *circa* A.D. 200 to 300, was characterized by a red ware. Several remains of well-built brick structures were exposed in this period. Period IV, from A.D. 300 to 500, yielded fine Gupta terracottas and sealings inscribed in Gupta script.

According to Buddhist texts the Lichchhavis built a *stūpa* over their share of the relics of Buddha to the north-west of the city; this is identified with the remains of a *stūpa* of mud excavated recently. Originally it was 7·5 m. in diameter and was subsequently enlarged by burnt brick several time, ultimately resulting in a diameter of over 12 m. (p. 89).

EARLY HISTORICAL CITIES

The defences showed three periods. The original rampart overlying the N.B.P. Ware, was built with burnt brick in the Śuṅga period (Period II), although only brick-bat débris was encountered in the excavation. During the rule of Kushans (Period III) it was heightened with earth and encircled by a moat, while in the Gupta period (Period IV) brick was used again, and barracks and other structures added to it.

Excavations at other sites have confirmed the above sequence and have revealed several mud-built *stūpas*. The site is fairly rich in coins, seals and sealings, terracotta figurines, ornaments and other objects usually found on early historical sites.

10. UJJAIN

Ujjain (ancient Ujjayinī) is one of the sites known to the earliest literary tradition as one of the sixteen *mahā-janapadas* or 'major states' into which northern India was divided. It was the capital of Avanti, and king Pradyota, a contemporary of Buddha, ruled here. It lies on the bank of river Śīpra, a tributary of the Chambal. Both the town and the river find mention in Kālidāsa's *Meghadūta* and other works of Sanskrit literature.

The site was superficially excavated earlier by the Archaeological Department of Gwalior State; recently it has been excavated on a larger scale by the Archaeological Survey of India under the direction of Shri N.R. Banerjee. The occupation of the site is divided into four periods. Period I, dated to *circa* 750 to 500 B.C., is characterized by black-and-red, fine red-slipped, and coarse granulated wares, the last one dominating over the other two classes

by sheer quantity. Iron is found from the very beginning. The houses were built with mud. A massive rampart with an extant basal width of 75 m. and height of 13 m. in the shape of a parallelogram, with a moat 24 m. wide around it, except on the riverside, was thrown around the habitation in the latter half of this period. The discovery of a single sherd of the Painted Grey Ware from the core of the rampart indicates that the ware had found its way to Ujjain earlier than the construction of the rampart. There was evidence of breaches in the rampart, which were repeatedly repaired. Over the riverside the rampart was strengthened with a caging of wooden rafters covered by mud (pl. XIII B). The major ingress to the town was through the gateway on the north-west, where a succession of roads was discovered.

In Period II, dated to *circa* 500 to 200 B.C., to the earlier categories of pottery, the N.B.P. Ware was also added. Judging from its quantities it appears to have been manufactured locally. Arrow-heads of bone, one of them bearing even a red stain, which has been identified as the blood-trace of a bird, occur in large numbers in this period. Inscribed seals, coins, iron objects like arrow-heads and spear-heads, terracottas and ornaments, particularly ear-disks of copper, ivory, jasper and clay, are some of the other objects used in this period. There is evidence of considerable structural activity consisting of the use of both mud-brick and kiln-burnt brick. A large tank, 10 m. by 8 m., and a canal exposed to a length of 56 m., both brick-built, are noteworthy. A tile-roofed mud-built workshop for the manufacture of beads of stone, arrow-heads and perhaps knitting-needles of bone was also discovered.

EARLY HISTORICAL CITIES

Period III is assigned to *circa* 200 B.C. to A.D. 1300, from the time of Śuṅgas to that of Paramāras, its sub-periods not having been worked out yet. Coins with Ujjayinī symbol and terracotta figurines abound in this period. Particularly remarkable for its decorative tunic and other ornamentation is the figure of a lady of the Kushan period (pl. XV C and D). The manufacture of beads of semi-precious stones is a specialized industry of this period. It may be noticed that the *Periplus of the Erythraean Sea* refers to Ujjain as an emporium of trade exporting precious and semi-precious stones to the western world through the port of Broach. The exposed houses of this period were built of mud on rubble-foundations. There existed also ringed soak-wells, vertically arranged soakage-jars and drain-pipes. A channel-shaped oven with several cooking-positions suggests its communal use. Period IV signifies only a short-lived settlement in the fourteenth century. Coins, glazed and other typical pottery and brick and stone structures were noticed in the levels of this period.

II. ERAN

Eran (ancient Airakiṇa) is well-known for its Gupta remains consisting of temples and inscribed pillars. It is surrounded on three sides by the meandering Bina (ancient Veṇvā), which is ultimately connected with the Yamuna over the Betwa. The site has been under excavation since 1960-61 by the University of Saugor under the direction of Professor K.D. Bajpai.

The deposits of long occupation here are assigned to four periods. Period I is protohistoric and has already been mentioned (p. 22). Eran was occupied

ERAN

again, after a long gap, a few centuries prior to the beginning of the Christian era (Period II). Iron had now come into use and the coarse red ware was the normal pottery, although the plain black-and-red ware still continued. A sherd of the N.B.P. Ware was also found in the upper levels of this period. Apart from beads of terracotta, shell and semi-precious stones, bangles of shell, stone weights, terracotta figurines and punch-marked and cast tribal coins also occur in this period. A lead piece bearing an impression of a die with the legend in Mauryan Brāhmī reading as *raño Idagutasa*, 'of king Indragupta', is particularly interesting. Although no structures were met with, brick-bats attested to their prior presence.

Occupation continued during the first four or five centuries of the Christian era (Period III). The black-and-red ware now entirely disappeared and the well-known Red Polished Ware, associated with Roman ceramics, now came into use. The houses were built substantially with kiln-burnt bricks. This period was particularly rich in coins, yielding a large hoard of punch-marked coins and coins of Rāmagupta, the Nāgas and the Indo-Sassanians. Among these the coins of Rāmagupta, both lion and Garuḍa types, are recorded for the first time. Figurines in Gupta style also occurred in these levels. Particularly interesting was a seal bearing the figure of Gaja-Lakshmi, with an inscription in Gupta characters which mentions the name of the town as Airakipa.

Period IV is medieval, datable from 1600 to 1800. The town was now fortified by a long stone-wall. Glass and shell bangles appear to have been a popular industry in this period.

12. MAHESWAR AND NAVDATOLI

Maheswar and Navdatoli (District West Nimar, Madhya Pradesh) lie on the southern and northern banks of the Narmada respectively, facing each other. Maheswar is traditionally identified with *Māhishmati*—a city founded by king Muchukunda according to the Purāṇas and other works and once the capital of Avanti according to Buddhist texts, to be distinguished no doubt from the northern capitals at Vidiśā or Ujjayini in different periods. Both Maheswar and Navdatoli were excavated in 1952-53 under the direction of Dr. H.D. Sankalia by a joint expedition organized by the Deccan College Post-graduate and Research Institute, Poona, with assistance from the Universities of Poona and Bombay and the Department of Archaeology of the erstwhile Madhya Bharat State. Excavations were continued even subsequently at these sites under the same director.

Taken together, these two sites have yielded the story of human habitation on the Narmada, with certain gaps, from prehistoric to late medieval times. Of the seven periods, into which the occupation of Maheswar and Navdatoli is divided, the first two belong to the Early and Middle Stone Ages, and the third to the protohistoric period, which has been dealt with earlier (p. 20). The remains of Periods III and IV are found both at Navdatoli and Maheswar, but the subsequent story from Period V to VII is gleaned only from Maheswar.

The protohistoric occupation at Maheswar and Navdatoli ended in about the fourteenth century B.C., and it was after a long gap that the sites were re-occupied again in Period IV, which is characterized mainly by the black-and-red ware and the

MAHESWAR AND NAVDATOLI

N.B.P. Ware and early coins. It may be dated from *circa* 400 to 100 B.C. By now iron had come into use. Terracotta figures, toys, bangles and beads, the last also of semi-precious stones and glass, formed other material in use. A *stūpa* at Navdatoli, with some of its bricks inscribed in letters of the third century B.C., falls in this period; it was destroyed by a flood. The use of kiln-burnt brick in the *stūpa* suggests good housing, but the remains of houses found in the excavations are limited to post-holes, pebble-walls and ring-wells.

In Period V, limited to Maheswar, dated between 100 B.C. to A.D. 100, the black-and-red ware diminishes considerably, while tan and burnished red wares become more popular. A number of glass objects come from this period. The evidence of houses is provided by brick-bats and tiles.

Period VI is characterized by the Red Polished Ware, which is found largely in western India in association with the remains of the Kshatrapa period. It is closely akin to the Roman Samian ware, and one of its forms, a long and narrow-necked spouted vase, commonly described as 'sprinkler', is perhaps of Mediterranean origin. The black-and-red ware shows a further decrease in this period, while coarse red and black wares are on the increase. The exposed structures of this period were largely fragmentary but included a house consisting of a large room with verandahs and two small rooms, all built with kiln-burnt bricks raised on pebble and mortar foundations.

Period VII is dated to late medieval times when this part of the country was under the control of Muslims and Marathas successively.

EARLY HISTORICAL CITIES

L. NASIK

Nasik, on the southern bank of Godavari, is the headquarters of a District of the same name and is mentioned in several Sanskrit works, perhaps the earliest direct reference occurring in the *Mahābhāṣya* of Patañjali of the mid-second century B.C. It is famous for the rock-cut caves in its neighbourhood, some of them inscribed, and excavated between 100 B.C. and A.D. 300. In 1948 some sherds of the N.B.P. Ware were picked up here. It was subsequently systematically excavated by Dr. H.D. Sankalia as part of the excavation-programme of the Deccan College Post-graduate and Research Institute, Poona.

Tools of Early Stone Age have been picked up here from the surface. Of the total height of 30 m. of the mound, only a thickness of about 7.5 m. contains, however, the relics and remains of human habitation, divided into four periods from the proto-historic to medieval times. The first period, proto-historic, dealt with earlier (p. 24), ended in about the thirteenth century B.C. The site remained deserted till about 400 B.C., when it was re-occupied in early historical times (Period II).

This period is divided into two phases, A and B, dated to 400-200 B.C. and 200 B.C.-A.D. 50 respectively. The common pottery of this period is a coarse red ware with globular vessels, dishes, bowls, large jars and others shaped like gourds. Quantitatively a black-and-red ware comes next, the popular shapes in it being jars, bowls, dishes and basins. The houses in this period were mud-walled, and there also existed soakage-pits lined with bricks or rings. Two huts were exposed in some detail. Associated with the dwellings were large storage-jars. Iron

NASIK

implements, beads of terracotta and semi-precious stones and bangles of shell were other articles in use. Glass was known, but only traces have been found. In Period II B uninscribed cast copper coins and some sherds bearing criss-cross designs as in the *Āndhīā Ware* also appeared.

The introduction of the well-known Red Polished Ware, more characteristic of western India, marked the beginning of Period III. Some of the sherds are inscribed with symbols or Brāhmī characters, palaeographically datable between the third and first centuries B.C. The houses were now built with kiln-burnt bricks and roofed with terracotta tiles. This period is dated from A.D. 50 to 200, and it is during this period that the Kshaharātas ruled over this part of the country. Bone, glass and gold were now used for beads.

Period IV covers the span from 1400 to 1875, when Nasik came successively under the sway of Muslim provincial governors, Mughals and Marathas. The common pottery of this period is red or black, and some of the shapes are, curiously enough, similar to those from Period II. Celadon ware and shell bangles, some decorated, are found in the levels of this period.

14. NEVASA

Nevasa, on the Pravara, a tributary of the Godavari, lies in District Ahmadnagar and is famous as the home of the thirteenth century saint Jñāneśvara, famous for his commentary on the *Bhagavad-Gītā*. Excavation was started here in 1954 and carried on in subsequent years by Dr. H.D. Sankalia of the Deccan College Post-graduate and Research Institute, Poona.

EARLY HISTORICAL CITIES

Nevasa provides a fuller index of the cultural sequence on the Godavari than Nasik, in the sense that relics of the Old and Middle Stone Ages are better represented here. Including the two Stone Ages, the occupation here is divided into six periods, the later four of which are roughly coeval with the four periods of Nasik. Nevasa, however, has been excavated on a larger scale and has produced more ample evidence for each period.

Period III, protohistoric, came to an end in about the thirteenth century B.C., as mentioned earlier (p.25). Nevasa was occupied again after a long gap in about 200 B.C. in the historical period (Period IV). A black-and-red ware, and the so-called Āndhra Ware, with criss-cross designs, were now in use. Vessels of the N.B.P. Ware were also finding their way now to this place. Iron was the main metal and the currency included the coins issued by the Śātavāhana rulers. A punch-marked coin has also been recovered from the levels of this period. Beads, crucibles and animal figurines were in use.

Pebbles and clay, or alternating courses of black clay and silt, were now used in the foundations of houses, which were largely built with kiln-burnt bricks. The floors were of lime and clay, mixed with hemp. Wooden posts, however, still supported some of the roofs, as in protohistoric times. Soak-pits lined with bricks or rings and storage-jars embedded in floors formed other adjuncts of houses.

The introduction of the Red Polished Ware and Roman amphorae in about 50 B.C. heralded the beginning of the next period (Period V). Life became more affluent, but there was no vital change in the pattern of life or the articles of everyday use. Glass may have been known in protohistoric times, but it became now more accessible. Faience and

NEVASA

shell, apart from semi-precious stones and terracotta are among other materials used for manufacture of beads. Votive tanks, human figurines and a wide range in iron implements supplied other needs. The houses were built on the same pattern as in the preceding period, but tiles were used for roofing.

The site was deserted in about A.D. 300, and it was after a long gap, in about 1400, that it was inhabited once again during the rule of the provincial governors appointed by the Sultāns of Delhi (Period VI). The Mughals and Marathas ruled over it successively till about 1700. The houses were now often made of stone. The celadon, glazed ware and glass, the last of which was perhaps the most popular material for bangles, are characteristic of this period. These levels also yielded coins of the Bahmani and Nizām Shāhi rulers.

15. TAMLUK

The sea-port on eastern coast mentioned in literature under different names, such as Tāmraliptā, Dāmaliptā, Tāmralipti or Tāmraliptikā, from where Indian seacraft sailed to the islands in the Indian archipelago and China, is identified with Tamluk (District Midnapur) on the Rupnarayan river. Besides being mentioned by Ptolemy, it was visited by the Chinese pilgrims Fa-Hien, Hiuen Tsang and I-tsing. Silver and copper punch-marked and rectangular cast coins, terracotta figurines and ancient pottery were picked up here from time to time. A few trial-trenches were sunk here in 1940. Excavation was undertaken, however, on a larger scale in 1954-55 by the Archaeological Survey of India under the direction of Shri M. N. Deshpande.

EARLY HISTORICAL CITIES

The excavation revealed that the site had been occupied from the neolithic to modern times, perhaps with several breaks. The ponds and other cuttings made later, disturbing the ancient accumulations, did not allow to obtain a connected sequence.

Over the neolithic celts associated with an ill-fired pottery, the site was occupied in the third-second centuries B.C. (Period II). Typical terracotta figurines in Śunga style, cast copper coins and pottery normally associated in northern India with the N.B.P. Ware were found in these levels. Even the latter had been picked up earlier. Rouletted Ware, and 'sprinkler'-type vessels, bespeaking contact with the Roman world, characterized the next period (Period III), which could be dated to the first two centuries of the Christian era. A brick-built deep stepped tank and ringed soak-wells provided evidence of structural activity in this period.

Occupation during the Kushan and Gupta times (Period IV) was indicated by typical terracotta figurines, one of which, although broken, provided a competent Gupta specimen with its graceful modelling and transparent drapery. Pieces of sculptures indicated occupation in Pāla and Sena times, while remains of houses and salt-factories of the eighteenth and nineteenth centuries were found in top levels.

16. BANGARH

Bangarh (Dinajpur District), anciently known among others by the names of Koṭivarsha and Devikoṭa, lies on the bank of the Punarbhava, a feeder of the Padma, a major tributary of the Ganga. It was excavated by the University of Calcutta

BANGARH

during 1937-41 and again in 1951 under the direction of Shri K.G. Goswami.

Five 'strata', dating from the Maurya to the early medieval period, were recognized here by the excavator. In the lowest stratum was exposed a ring-lined soak-well; the potsherds from this level included specimens of the N.B.P. Ware. Period II, coeval with the period of the Śuṅgas, was characterized by prosperous buildings, drains, cess-pits, and a brick-built rampart-wall. Terracotta figurines, typically Śuṅga in technique and features, were among the objects from this level. The pottery from Period III, covering the Kushan and Gupta times, shows various impressed decorative motifs. During this period and the following one, when the Pālas had come on the scene, the rampart-wall was raised higher. A small but unique lotus-shaped tank, originally covered with a pillared canopy, belongs to the Pāla period. With the tank at the centre, the primary plan of the buildings to which it pertains is cruciform, a chamber on each corner communicating with the tank. Carved bricks and stone sculptures form other relics of this period. No buildings in Period V were encountered, but the abundance of glazed potsherds leaves no doubt as to the early medieval age of the top levels.

17. CHANDRAKETUGARH

Ancient terracottas and pottery had been picked up earlier from the fortified site of Chandraketugarh (District 24-Parganas), 37 km. north-east of Calcutta. The site has been under excavation by the University of Calcutta from 1956-57 under the direction of Shri K.G. Goswami and others. The excavation has revealed almost a continuous sequence

EARLY HISTORICAL CITIES

of occupations, divided into six periods, from the pre-Mauryan to Pāla times, at the two mounds of Chandraketugarh and Khana-Mihirer-Dhipi and a third site known as Itākhola, all parts of the village known as Berachampa.

In pre-Mauryan levels (Period I) a red ware, often treated with a slip, was in use, along with ivory beads, bangles and other small objects. Period II was probably coeval with the Maurya and Śuṅga rule. It is marked by the introduction of the N.B.P. Ware and black-slipped, polished and unpolished grey wares. Pieces of a Rouletted Ware dish, beads of semi-precious stones, antimony-rods of copper and ivory, terracotta figurines and copper punch-marked coins were recovered from this period. In Period III, possibly late Śuṅga, a red ware, sometimes bearing stamped designs, appears to have been in use. In addition to typical Śuṅga terracottas, beads of stones, antimony-rods of bone, ivory and copper, steatite caskets, cast copper coins and sherds inscribed in early Brāhmī are the other antiquities of this period. Period IV, coeval with the Kushan rule, yielded typical terracotta human figurines, cast copper coins, beads of glass and semi-precious stones, bangles of shell and terracotta plaques, one of which, portraying a pair of parrots pecking at a lotus-pod, was particularly interesting.

In the first four periods there are either no traces of houses, or, if at all, they appear to have been built with mud, bamboo and timber with roofs of tiles. Wooden piles for bearing the load of overhead structures appear to have been driven in the soft earth of this deltaic region. The kiln-burnt brick was introduced in Period V in the Gupta times, when the pottery in use was grey or black, sometimes bearing stamped designs. Terracotta

CHANDRAKETUGARH

plaques with animal and human figures, the latter often portraying *mithunas*, and ear-studs were among other objects in use.

At the mound of Khana-Mihirer-Dhipi, where eight occupational levels were noticed, a large polygonal brick structure of *sarvatobhadra* plan, probably the remains of a temple, belongs to the Gupta period. This temple was enlarged out of an earlier smaller structure. In the centre of the temple a brick-lined square pit with widening sides was found covered by later additions. Before the construction of the temple, the dwellings consisted of wooden or bamboo structures bearing tiled roofs. The site was also under occupation during the rule of the Pāla kings (Period VI), to which some of the later structures belong.

The excavation has also revealed the remains of two votive *stūpas* and an extensive brick-built wall, which suggest the existence of a Buddhist establishment in later Gupta times.

18. SISUPALGARH

In ancient Kalinga, Sisupalgarh, near Bhubaneswar, possibly identical with Tosali mentioned in Aśoka's edicts at Dhauli, 3 km. south of it, and with Kalinganagra of Khāravela's Hāthigumphā inscription at Khandagiri, 10 km. north of it, was excavated by the Archaeological Survey of India under the direction of Shri B.B. Lal.

The total occupation of Sisupalgarh can be divided into three periods. The formative period of the settlement, *circa* 300-200 B.C., shows singularly plain pottery of a dull grey to terracotta red surface. No structural remains of this period came to light. The next period, with impressive

EARLY HISTORICAL CITIES

structures of laterite slabs, may be divided into two phases, the earlier of which, *circa* 200 B.C. to A.D. 100, shows a sophistication of the local pottery combined with the introduction of decorations and the evolution of a bright-red polished ware. At the bottom of this period occurs the black-and-red ware, while the late levels occasionally yield fragments of the Rouletted Ware. In the upper phase of this period, *circa* A.D. 100-200, the bright-red ware deteriorated into a plain red ware with an ordinary wash, and the decorative patterns became crude. Glass bangles, clay *bullae* imitating Roman coins (pl. XVI C), a silver punch-marked coin and a copper coin of Huvishka were also found in the deposits of this period. In the last period, *circa* A.D. 200-350, the devolution of the bright-red ware into a thin ineffective red or yellowish-red pottery was complete. A gold coin, copied from the coinage of the Kushan king Vāsudeva, and some Puri-Kushan coins came from this period. A large number of terracotta ear-ornaments obtained here show their beginnings in the second period, but it is in the last period that they became extremely abundant and characteristic of the site.

The houses in the town were built with bricks or cut laterite-slabs, and the streets seem to have been laid on a chess-board pattern. The remarkably elaborate western gateway, built of massive slabs of laterite, was flanked by L-shaped arms projecting outwards which could be ascended by regular flights of steps (pl. XIV A). Two doorways, outer and inner, gave access to the town through the flanks. A third narrow passage, passing through the northern flank close to the inner doorway, presumably restricted the entry when the main doorways were closed as occasion demanded.

SISUPALGARH

The site was first occupied about 300 B.C., but the original rampart, of heaped earth, was not built till a hundred years later, when the black-and-red ware made its first appearance here. In the second phase, a 10-15 cm. thick layer of laterite was laid on the earlier earthwork. Two brick-walls, 8 m. apart with débris and mud-filling in between, marked the third phase; and, finally, when the earlier revetment had partially collapsed, a new revetment was built with stepped exterior.

19. ARIKAMEDU

Finds of certain beads and gems of Roman make at Arikamedu, 3 km. south of Pondicherry, had attracted the attention of the French antiquarian G. Jouveau-Dubreuil in 1937. Subsequently the French authorities carried out a superficial excavation there. In 1945, however, the site was systematically excavated by the Archaeological Survey of India under the direction of Dr. (now Sir) Mortimer Wheeler, on a scale large enough to give a reasonably clear picture of the nature of the ancient settlement, including its contact with the Roman world.

A large warehouse, built in about A.D. 50, came to light in one of the two sectors excavated; in the other were noticed four levels of successive structures, which included a courtyard with two small tanks (pl. XIV B), both believed to have been used in the preparation of muslin exported outside India.

The broken bits of pottery revealed, however, Roman wares of two categories which occurred almost through the entire span of occupation, from the close of the first century B.C. to A.D. 200. These were the two-handled amphorae, intended to contain

EARLY HISTORICAL CITIES

wine or oil, and the smooth-surfaced wide dish with concentric bands of rouletted pattern, which has come to be known as the Rouletted Ware. The pattern and technique of the latter were definitely importations, though not necessarily so the specimens found. A third ware was more limited in duration, between A.D. 20 to 50. This is a red glazed ware, sometimes stamped with the name of the potter (pl. XVI D) and commonly called the 'Arretine' Ware, from the Latin name of Arezzo (Arretium), which was famed contemporaneously for producing a high-quality ware of this class. Among other imported objects, including earlier finds, were Graeco-Roman gems, some of them with intaglio, a red-ware Roman lamp and Roman glass bowls, occasionally 'pillared' in mould.

The earliest local ware at Arikamedu is predominantly grey with some proportion of red ware, but the latter shows a progressive increase till it outnumbers the former. Finally a process of devolution sets in, and the red ware gets cruder and cruder. In the pre-Arretine layers some of the pots have basket-impressions, graffito-decoration or incised designs of the simplest kind. The black-and-red ware, usually associated with megaliths, is also present, but in very limited quantities.

Arikamedu was obviously an Indo-Roman coastal trading-station, probably identical with Podouke mentioned in the *Periplus of the Erythraean Sea* (circa A.D. 60-100). It ceased to be active after circa A.D. 200 and was thereafter subjected to spoliation in medieval times, as indicated by stray finds of Chola coins and fragments of Chinese celadon ware.

Y. D. SHARMA

III. NORTHERN BUDDHIST MONUMENTS¹

CONTENTS

	PAGE
1. The origins	85
2. Piprahwa	88
3. Lauriya-Nandangarh	88
4. Vaiśālī	89
5. Sāricetū	90
6. Bairat	91
7. Sarnath	92
8. Kasia	93
9. Bodh-Gaya	93
10. Nālandā	94
11. Rajgir	95
12. Saheth-Maheth	96
13. Kauśāmbī	96
14. Ratnagiri	97
15. Devnimori	98

I. THE ORIGINS

THE PLACES CONNECTED WITH THE FOUR PRINCIPAL events of Buddha's life, viz. his birth, enlightenment, first preaching and decease, which took place respectively at Lumbinī, Bodh-Gaya, Sarnath and Kasia, were looked upon with greatest sanctity. To these were added four other places also intimately

¹ For places mentioned in this chapter, see map, fig. 2, p. 99. The rock-cut Buddhist monuments are dealt with in chapter V.

NORTHERN BUDDHIST MONUMENTS

associated with his life, viz. Śrāvastī, Sāṅkāśya, Rājagriha and Vaiśālī, which together with the first four were regarded as the eight holy places (*aṣṭa-mahāsthānas*), celebrated alike in Buddhist lore as well as art. At Śrāvastī (below, p. 96) and Sāṅkāśya (modern Sankisa, District Farrukhabad) Buddha is believed to have performed great feats of miracles. At Rājagriha (below, p. 95) the Master tamed the mad elephant which had been let loose on him by his cousin Devadatta. Vaiśālī witnessed the memorable event of the offer of honey to the Master by the monkeys. There were several other places in the present States of Bihar and Uttar Pradesh, such as Nālandā (below, p. 94) and Kauśāmbī (below, p. 96) which were also hallowed by Buddha's visits during his ministry extending over nearly half a century. It is but natural that those places should be adorned by devout Buddhists with shrines, *stūpas* and monasteries. Further, according to tradition king Aśoka (273-32 B.C.) opened the eight out of the ten original *stūpas* enshrining the body-relics of the Master and distributed them into eightyfour thousand *stūpas*, which he is said to have erected throughout the length and breadth of his vast empire. This explains why sites like Sanchi (below, p. 90) and Taxila (West Pakistan) have such fine Buddhist monuments, even though they were not visited by Buddha.

The earliest Buddhist monuments in India are attributable to Aśoka, who exerted his energies and the resources of his empire to the propagation of Buddhism. He is credited with the authorship of three principal types of monuments, viz., (1) pillars, (2) *stūpas*, and (3) rock-cut caves, of which the first two have Buddhist associations. Aśoka set up at least thirty pillars including ten inscribed with his edicts on sites which are scattered in Districts Champaran

ORIGINS

and Muzaffarpur of north Bihar, in the Nepal *Tarai*, at Sarnath near Varanasi and Kauśāmbī near Allahabad, in the Meerut and Ambala Districts and at Sanchi in central India. Made of Chunar sandstone and bearing a highly lustrous polish, the pillars are tapering monolithic shafts, between 10 and 15 m. high, with an ornamental capital, surmounted by powerful animal-sculpture of symbolical significance. Distinguished by dignity, exquisite finish and monumental quality, these free-standing columns probably formed part of larger architectural schemes on sites like Sanchi and Sarnath. The best-preserved pillar is that at Lauriya-Nandangarh (District Champaran), which is complete with the Aśokan edicts and a capital crowned by a stately figure of lion (pl. XVII A).

The *stūpa* originated as a piled-up burial-tumulus and constituted the most characteristic monument of Buddhist religion, although *stūpas* of other faiths are not unknown. Symbolizing the decease (*parinirvāṇa*) of Buddha, the *stūpa* came to be looked upon as an object of Buddhist cult-worship by the time of Aśoka, who, as stated above (p. 86), is believed to have erected an enormous number of *stūpas* over Buddha's relics which had originally been enshrined in eight or ten monuments. *Stūpas* were of three types and were built either to enshrine the body-relics (*śāstrika*) or the personal effects (*pāribhogika*) of Buddha and Buddhist saints or to commemorate spots and events of religious significance (*uddeśika*). In course of time, the dedication of *stūpas*, with or without relics, was considered an act of highest piety and numerous 'votive' *stūpas* of smaller size, some containing scores or hundreds of clay replicas of tiny *stūpas* were put up around larger Buddhist *stūpas* or shrines.

NORTHERN BUDDHIST MONUMENTS

The *stūpa* was a solid structural dome (*aṇḍa*), usually raised on one or more terraces and surmounted by a railed pavilion (*harmikā*) from which rose the shaft of the crowning umbrella (*chhatra*). The *stūpas* had one or more circumambulatory passages (*pradakshina-patha*) which were usually enclosed by railing (*vedikā*). The earlier *stūpas* were hemispherical in shape with a low base, while the later ones assumed an increasingly cylindrical form with a well-developed drum. In the later examples, which tended to be more ornate, the base-terraces and the umbrellas were multiplied.

2. PIPRAHWA

The only brick *stūpa* of a probable pre-Aśokan date is that at Piprahwa in Basti District of Uttar Pradesh, which yielded among its relics a vase, inscribed in characters believed to be pre-Aśokan, and a figure in gold relief, representing the mother-goddess in a frontal pose. The *stūpa*, built of large bricks, has a diameter of 35 m. and an extant height of 6·6 m., indicating a low ratio of height to diameter, which is a sign of antiquity. According to the inscription on the relic-casket, the relics found in the *stūpa* pertained to Buddha himself (pl. XVII B).

3. LAURIYA-NANDANGARH

Lauriya (District Champaran) contains, besides an inscribed Aśokan pillar, fifteen *stūpa*-mounds. Four of them were excavated in 1904-07 and as two of them yielded a deposit of burnt bones with charcoal and a gold leaf with a mother-goddess figure (akin to the one from Piprahwa), they were regarded by the excavator to be Vedic burial tumuli. As a

LAURIYA-NANDANGARH

result of their re-examination in 1935-37 they were definitely recognized to be *stūpas* of mud or mud-bricks with baked-brick revetments (in two cases with actual brick-lining) and were regarded as roughly contemporary with the Piprahwa *stūpa* on account of the analogous find of the mother-goddess figure on the gold leaf.

Nandangarh, about 2 km. from the Aśokan pillar, represents a fortified habitation-site. At one end of the site was excavated a large brick *stūpa* reared up on multiple polygonal terraces with numerous re-entrant angles. This edifice, of the early centuries A.D., is the earliest example of a form of terraced *stūpa* which culminated in the celebrated monuments of Paharpur in East Pakistan and Borobudur in Java, both dating from *circa* A.D. 800.

4. VAIŚĀLI

Vaiśāli (District Muzaffarpur), which was the birth-place of Mahāvira and a favourite resort of Buddha, has an uninscribed Mauryan pillar, besides extensive remains of ancient shrines, *stūpas* and habitations including a fortified citadel (*garh*). A *stūpa* was excavated here by Dr. A.S. Altekar in 1957-58. It was seen to have started as a mud *stūpa* of unpretentious size (7.5m. in diameter) in the pre-Mauryan age and was enlarged four times, the first enlargement being executed in neat brickwork during the Mauryan times. From the find of a relic-casket within an ancient breach inside the core of the *stūpa*, the excavator surmised that this was the *stūpa* built by the Lichchhavis over their share of the body-relics of Buddha, which, according to tradition, were opened up by Aśoka for redistribution of the relic-contents.

NORTHERN BUDDHIST MONUMENTS

5. SANCHI

Sanchi was a flourishing Buddhist settlement teeming with temples, monasteries and *stūpas*, dating from the Mauryan to the medieval ages. The original nucleus of Stūpa 1, attributed to Aśoka, was a low brick structure, of almost half the diameter of the present *stūpa* (pl. XVIII), in the core of which it is now concealed. This structure, built of large bricks, was much damaged when excavated. Presumably it was hemispherical in shape with a raised terrace at the base, enclosed by a wooden railing, and a stone umbrella at the summit, of which pieces were recovered from the site. The only other structure which went with this was the Aśokan pillar which stands at its original place near the southern gateway. About a century later, the original brick *stūpa* was enveloped in a stone casing and was enlarged to its present dimensions (diam. over 36 m., ht. 16.46 m.) to form an almost hemispherical dome, truncated near the top. At the same time a lofty terrace, approached by a double flight of steps on the southern side, was built against its base to serve as a processional path. The masonry of the dome and terrace was originally covered with plaster decorated with colour. At the summit of the *stūpa* was built a diminutive square railing with a pedestal, from which rose the shaft of the triple umbrella that crowned the superstructure. Another paved processional path was provided on the ground-level which was enclosed by a plain and massive stone-balustrade. This balustrade, consisting of tenoned uprights, triple cross-bars of a lenticular section and copings with scarf-joints, was obviously copied from a wooden prototype and formed the gift of individual donors.

SANCHI

It was in the latter half of the first century B.C. that the four lavishly-carved gateways were erected, one in each cardinal direction (pl. XIX), as magnificent entrances to this imposing monument. These were manifestly conceived in wood and executed in stone, and each of them, over 10 m. high, was alike in design and consisted of two square uprights, surmounted by capitals, which in their turn supported three architraves with a row of sculptured balusters in between. Each of them was carved on both faces with the *Jātaka* tales, scenes from the life of Buddha and miscellaneous motifs, the entire composition being significantly crowned by the symbol of *dharmachakra*.

6. BAIRAT

Remains of a Mauryan brick *stūpa* of a unique type have been recovered at Bairat (Jaipur District). Of the *stūpa* only bits of foundation have survived together with pieces of a stone umbrella and a bowl, bearing the distinctive Mauryan polish, the former being probably the crowning member of the *stūpa*. The main interest of the monument lies in the enclosing circular shrine (diam. 8·23 m.) which was made of lime-plastered panels of brickwork alternating with twentysix octagonal pillars of wood. The shrine was entered from the east through a small portico, supported on two wooden pillars and was surrounded by a circular processional path with an opening on the east, the whole being enclosed at a later date within a rectangular compound containing an open space for assembly in front of the entrance. This *stūpa*-shrine resembles on plan and in design a circular *chaitya*-cave in the Tulaja-*leṇa* group at Junnar (below, p. 116).

NORTHERN BUDDHIST MONUMENTS

7. SARNATH

Sarnath, where Buddha first preached the Law, was among the four holiest places of Buddhism and developed as one of the greatest Buddhist establishments of India. Excavation at the site conducted between 1904 and 1928 uncovered numerous temples, *stūpas* and monasteries, the earliest attributable to the time of Aśoka.

The nucleus of the brick-built Dharmarājikā Stūpa, comprising a hemispherical dome (diam. 18·3 m.) with a low terrace at the base, was probably built by Aśoka. A monolithic railing bearing a Mauryan inscription and polish, found near the *stūpa*, presumably formed its *harmikā*. The inscribed Aśokan pillar with the celebrated lion-capital (pl. LXXXIII), which was recovered not far from the *stūpa*, appears to have formed part of its architectural scheme. The original *stūpa* was encased in six successive ones, each larger than the other, which range in date from the second to twelfth century.

Notable among other edifices is a square Gupta temple with rectangular chapels on three sides and a flight of steps on the fourth, representing probably the high *mūlagandha-kutī* seen by Hsuen Tsang in the seventh century.

The Dhamekh Stūpa (pl. XX) at Sarnath is an imposing cylindrical structure (extant height 43·5 m., diam. at the base 28·3 m.) of the Gupta age, partly built of stone and partly of brick. Its stone basement has eight projecting faces with large niches for statuary and is further adorned with delicately-carved floral and geometrical patterns.

The site has a number of monasteries, ranging in date from the fourth to the twelfth century A. D.,

SARNATH

showing the usual plan. The latest of these was built, according to an inscription, by Kumāradevī, the Buddhist queen of Govindachandra of Kanauj (1114-55).

The Chaukhaṇḍī mound, about 1 km. to the south of the main settlement, represents the ruins of a towering Buddhist *stūpa* or shrine surmounted by an octagonal tower built by the Mughal emperor Akbar.

Sarnath was also one of the greatest centres of sculptural art in north India from the Mauryan to the late Gupta times, the lion-capital and the preaching Buddha (pl. LXXXVIII) being among the masterpieces of Indian art.

8. KASIA

Kasia (District Deoria), which marks the site of Kuśīnagara, the place of the *parinirvāṇa* of Buddha, is one of the four holiest sites of Buddhism. The site was first excavated in 1876 and again between 1904 and 1912, resulting in the clearance of the Nirvāṇa *stūpa*, assignable on the evidence of an inscribed copper-plate to the Gupta age, and of several shrines and monasteries, largely of the same age. The latest monastery was built by a local Kalachuri chief in the twelfth century.

9. BODH-GAYA

Marking the holy spot of the enlightenment of the Master, this site is looked upon with greatest sanctity and became a flourishing Buddhist establishment with numerous temples, *stūpas* and monasteries. According to tradition a large number of shrines and memorials were erected at the site to

NORTHERN BUDDHIST MONUMENTS

commemorate the incidents before and after enlightenment but only few can now be recognized. Of the earliest shrine, traditionally attributed to Aśoka, only the *vajrāsana* or the sandstone throne with the characteristic Mauryan polish and decorative designs has survived and is seen beneath the holy Bodhi tree. To the Śuṅga period belongs a portion of the sandstone railing carved with bas-reliefs, typical of the age. The remaining portion of the railing pertains to the Gupta period. The main brick-built shrine known as the Mahābodhi temple (pl. XXI), which appears to have been originally erected in *circa* second century A.D., is encumbered with heavy renovations, the four corner-towers being an arbitrary addition of *circa* fourteenth century. Its central tower, standing on a high plinth, is about 55 m. high and is a straight-edged pyramid of seven storeys, relieved by pilasters and *chaitya*-niches, substantially agreeing with its description left by the Chinese pilgrim Hiuen Tsang. The remaining shrines and *stūpas* mostly belong to the Pāla period (ninth to twelfth centuries).

10. NĀLANDĀ

According to literary tradition, Nālandā, 10 kilometres north of Rajgir and a suburb of the ancient city, was visited by Buddha and Mahāvīra. Aśoka is said to have worshipped at the *chaitya* of Śāriputra, Buddha's disciple, and erected a temple. But the excavations which were conducted here from 1916 onwards have not revealed any pre-Gupta remains. By the time of Harsha (A.D. 606-48) Nālandā had become the principal centre of Mahāyāna learning and a famed university-town with numerous shrines and monasteries which attracted scholars

NĀLANDĀ

from far and near. The Chinese pilgrim Hiuen Tsang and I-tsing studied at Nālandā and have left accounts of the settlement and its life.

Nālandā had a planned lay-out with an almost symmetrical row of monasteries facing a row of temples, with wide spaces in between. The temples were solid rectangular structures of two tiers, the sanctum being placed on the upper tier which was approached by a grand flight of steps. The façades of both the tiers were plastered and embellished with elegant pilasters and niches containing images. Temple 3 was more than 31 m. high and consisted of seven successive accumulations of which the two latest belonged to the eleventh and twelfth centuries and the fifth one, dating from *circa* sixth century, was notable for its sculptural wealth (pl. XXIII). The monasteries (pl. XXII) were imposing rectangular buildings, each with an open courtyard, enclosed by a covered verandah which leads into cells, arrayed on the four sides. The cell facing the entrance served as a shrine.

Nālandā was an important centre of Pāla sculptures and bronzes and has also yielded seals and sealings of great historical significance.

11. RAJGIR

Rajgir (District Patna), representing ancient Rajagriha or Girivraja, was the capital of the ancient kingdom of Magadha and a flourishing city in the days of Mahāvira and Buddha who visited it frequently. It was also the venue of the first Buddhist council, held shortly after the *nirvāṇa* of Buddha.

The ruins of Rajgir, (above, p. 60) which have been partly excavated, cover an extensive area within and outside the hill-enclosure and include the ancient

NORTHERN BUDDHIST MONUMENTS

defences and remains of habitations, shrines, *stūpas* and monasteries. A monastery with large elliptical halls, identified as Jīvākāmravana, mentioned in the Buddhist texts as a favourite retreat of Buddha, has been recently excavated within the valley.

12. SAHETH-MAHETH

The Jetavana monastery at Śrāvastī, the capital of the Kosala kingdom, was the scene of many a sermon of Buddha and has been identified with the twin sites of Saheth-Maheth, located in Gonda and Bahraich Districts of Uttar Pradesh. Excavations conducted between 1907 and 1911 have revealed at Saheth, representing ancient Jetavana, a number of shrines, monasteries and *stūpas*, the earliest of which, probably of the Mauryan age, yielded a sandstone casket containing bone-relics together with a gold leaf and a silver punch-marked coin. Maheth, representing Śrāvastī, is a fortified town with ruins of residential houses as well as brick *stūpas* and shrines, one of which exhumed more than three hundred terracotta panels, depicting scenes from the *Rāmāyana* in the Gupta style.

13. KAUSĀMBĪ

Kausāmbī (District Allahabad), the reputed capital of the ancient Vatsa kingdom, is one of the oldest and richest historical sites of India, claiming intimate association with Buddha. Following a small excavation by the Archaeological Survey in 1937-38, the site is being continuously excavated by the Allahabad University since 1949. The excavations have thrown light on the age and character of the massive fortifications which enclose the ancient

ruins and of the connected habitations (above, p. 53). In a corner of the fortified city have been cleared the extensive remains of the Ghoshitārāma monastery, intimately associated with Buddha, which show continuous occupation from *circa* sixth century B.C. to sixth century A.D. when it was destroyed by the Hūṇas.

14 RATNAGIRI

The excavation conducted since 1958 at the Buddhist site on the Ratnagiri hill in District Cuttack of Orissa has confirmed the testimony of the late Tibetan traditions that Ratnagiri was a great centre of Mahāyāna and Vajrayāna learning and art.

The main *stūpa*, made of brick, had a base measuring 14.5 m. square with six elegantly-moulded projections on each side and a circular drum, the interior of which was designed as a wheel with twelve spokes with the interspaces packed with mud-filling. Dating from *circa* eighth century, it was twice enlarged and enclosed by numerous votive *stūpas* of brick and stone, including clusters of miniature monolithic ones.

Facing the main *stūpa* were two brick monasteries in a row, with the usual plans, the larger one measuring 54.8 m. square and the smaller one 29 m. square. One of them had a magnificent entrance-porch flanked by pylons and a shrine in the back wall with elaborately-carved stone door-frames, exhibiting a rich wealth of sculptural and decorative ornaments (pl. XXIV). At least this monastery was multi-storeyed and was in occupation from *circa* eighth to thirteenth century. The second one had also a shrine in the back wall.

The site has yielded a rich crop of Buddhist images of bronze and stone and terracotta sealings.

NORTHERN BUDDHIST MONUMENTS

and excels all other excavated monuments in sculptural exuberance.

15. DEVNIMORI

The recent excavation at Devnimori in District Sabar-Kantha of Gujarat has exposed the remains of a large Buddhist establishment, comprising a brick *stūpa* and monastery. The *stūpa* with a cupola, resting on two square platforms, is a massive edifice measuring 26 m. square and is more than 10·4 m. high. The lower platform, which served as a processional path, was divided into eleven bays by twelve Indo-Corinthian pilasters, while the upper platform was adorned by ten similar pilasters on each face. The central bay on each face contained an ornate arch, while each alternate bay appears to be adorned with a Buddha image in terracotta. Thus the façades of the *stūpa* were elaborately embellished with statuary and decorative patterns including pot-and-foliage, scrolls and dentils. This monument resembles the brick *stūpa* at Mirpur-Khas (West Pakistan) in design and style and elegance of terracotta sculpture. The discovery from the heart of the *stūpa* of an inscribed relic-casket recording that the 'great *stūpa*' was built near the 'great monastery' during the reign of (the Western Kshatrapa) king Rudrasena (III) in the year 127 (A.D. 375) probably dates it to the second half of the fourth century. There is evidence to show that the *stūpa* underwent reconstructions later on.

The monastery, showing the usual plan, measures 36·5 m. square. It is much dilapidated but appears to represent three phases of reconstruction.

KRISHNA DEVA

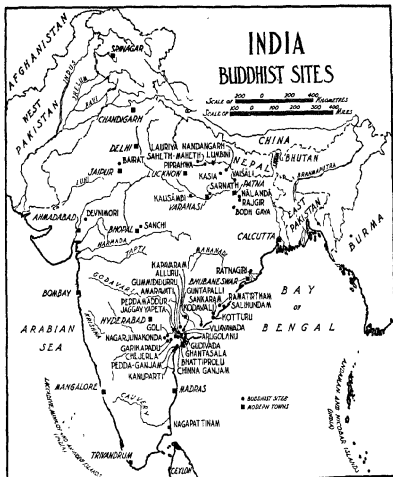


FIG. 2

IV. SOUTHERN BUDDHIST MONUMENTS¹

CONTENTS

	PAGE
1. The centres	100
2. The <i>stūpas</i>	101
A. The components	101
B. The early specimens	102
C. Amaravati	104
D. Nagarjunakonda	105
3. The <i>chaitya</i> -halls and monasteries	106
4. Nagapattinam	108

1. THE CENTRES

BY FAR THE LARGEST NUMBER OF STRUCTURAL Buddhist monuments in south India are confined to the eastern Districts of Andhra Pradesh lying between the rivers Vamsadhara close to the southern borders of Orissa in the north and Pennair to the north of the Tamil country in the south. The numerous *stūpas* and associated *vihāras* and *chaitya*-halls are found located amidst picturesque natural surroundings in the sheltered valleys of hills on the lower reaches of the Vamsadhara, the Godavari and the Krishna and their affluents, as also on other smaller streams or near large lakes fed by them, always a little removed from neighbouring towns. The ruins are seen at Salihundam (Srikakulam District),

¹For places mentioned in this chapter, see map, fig. 2, p. 99. The rock-cut Buddhist monuments are dealt with in chapter V.

CENTRES

Ramatirtham, Sankaram and Kotturu (Visakhapatnam District), Kapavaram and Kodavalli (East Godavari District), Arugolanu and Guntapalli (West Godavari District), Jaggayyapeta, Ramireddipalle, also called Gummididurru, Alluru, Vijayawada, Gudivada and Ghantasala (Krishna District) and Nagarjunakonda, Bhattiprolu, Chejarla, Garikapadu, Goli, Amaravati, Peddamaddur, Kanuparti, Pedda-Ganjam and Chinna-Ganjam (Guntur District). The largest number of the sites are thus concentrated in Guntur and Krishna Districts.

Buddhism may have spread to this region even in pre-Aśokan times, but the remains date from the third century B.C. and later.

2. THE *STŪPAS*

A. THE COMPONENTS

While the earliest form of the *stūpa* was a low hemispherical dome (*aṇḍa*), the later ones had their domes raised over a basal cylinder (*medhi*), the top surface of which provided an upper circumambulatory (*pradakṣhiṇa-patha*) round the dome, often with a balustrade on its edge. This balustrade or parapet was formed of vertical slabs mortised between uprights with a coping on the top. Often, projected as offsets from the four cardinal sides of the *medhi*, were platforms, carrying on their tops, in the case of some large *stūpas*, a row of some tall slender monolithic pillars called *āyaka*-pillars. These pillars and the *āyaka*-platforms on which they rested are sometimes regarded as characteristic of the *stūpas* of this region. On the top of the *aṇḍa* was the usual *harmikā* enclosing an umbrella (*chhatra*) or a series of them (*chhatrāvali*).

SOUTHERN BUDDHIST MONUMENTS

At the ground-level, the lower *pradakshina-patha* was sometimes enclosed by a railing, wooden in the first instance but often of stone even in the earlier examples. The entrance to the railed enclosure was plain, any elaborate gate (*torana*) adorning the entrance, as at Sanchi, being absent. The brick-work of the *aṇḍa* and *medhi*, as also the *āyaka*-platform, was, in the earlier and simpler examples, plastered over, usually with a large-looped garland picked out in stucco as an adornment round the *aṇḍa*. While the earlier *stūpas* were solid and sometimes massive, structures, like the one at Sanchi, the later ones had often different adaptations of internal structural supports with voids filled with suitable packing-material in between—expedients designed to conserve brick and at the same time to ensure strength and stability, for this was to bear the weight of the immense hemisphere and also of the casing of limestone slabs which often formed another notable feature of the *stūpas* of the region.

B. THE EARLY SPECIMENS

The large *stūpas* at Bhattiprolu and Gudivada, the earliest in the series (third century B.C.), were solidly built. The former was a low hemispherical mound with a basal diameter of 40 m., its railing having a diameter of 45 m. The limestone casing round its base was sculptured only in the region of the *āyaka*-platforms, the rest being of more or less plain slabs showing little carving except perhaps in the form of pilasters in low relief reaching up to the edge. The railing round the base was of limestone, the vertical posts (*ūrdhvapata*) being with laterally-cut lenticular mortises into which similarly-shaped cross-pieces (*sūchi*) were fitted, the top having a

STŪPAS

coping (*ushṇīṣha*). The *sūchis* were plain and unsculptured.

The Gudivada *stūpa*, of almost similar dimensions and with a basal diameter of over 39 m., was also solid-built, as the one at Bhattiprolu but had its *aṇḍa* raised over a taller *medhi*. It had a wooden railing.

The Garikapadu *stūpa*, with a basal diameter of about 25 m., had an outer brick ring about 2·5 m. thick at the base, the hollow interior being packed with alternate layers of lime-concrete and earth.

The Jaggayyapeta *stūpa*, with a basal diameter of 19 m., had inside its outer brick casing a core formed of superposed layers of earth, each about 60 cm. thick, separated from each other by compact brick floors. The casing-slabs round the *medhi* had little or no sculpture, but the slabs of the *āyaka*-platform had some. The largest of the three *stūpas* at Pedda-Ganjam was more or less of this type, with a diameter of 22·5 m. at the base.

The Ghantasala *stūpa*, 37 m. in diameter at the base, had a central brick column 3 m. square, with a concentric outer square 6·7 m. wide, the whole surrounded by two concentric circles, the outer forming the bases of the *medhi* and the inner rising up into the dome. Internal cross-walls forming radial projections from one ring to another, in addition to those formed by extensions of the sides of the square beyond their corners, furnished additional strength, the voids or 'chambers' being filled with packing. The *medhi* had a parapet of stone slabs mortised between uprights.

The second large *stūpa* at Pedda-Ganjam had a more or less similar construction, consisting of two concentric walls, the outer about 12 m. in diameter, the gap between the two walls being 1·55 m., with

SOUTHERN BUDDHIST MONUMENTS

four radial walls penetrating into the centre with more cross-walls between the two circles, thus anticipating the regular cart-wheel plan of Nagarjunakonda (below, p. 106) and some other Āndhra *stūpas*.

The *stūpa* at Goli was a small stone-cased structure, with exquisite sculptures akin to those of the later phase of Amaravati.

The earliest structural stone *stūpa*, built of cut-stone blocks, is to be found at Guntapalli. It is 4.9 m. in diameter at base, with a drum 1.5 m. high. It dates earlier than the Christian era. Another stone *stūpa* is found at Ramatirtham; it is 1.5 m. in diameter at the base and 2.1 m. in height.

C. AMARAVATI

In its ultimate form, the Amaravati *stūpa* typifies the class of brick *stūpas* with a stone slab veneering round the drum and lower parts of the dome. Sumptuously sculptured and carved in its prosperous days, it is now in utter ruins, and its architecture and embellishments are mostly to be inferred from its extant remains and many replicas carved in relief on what formed the casing-slabs, found at the site. Its outer stone railing had a diameter of 58.5 m. and a height of about 4 m. At the four cardinal points the railing projected into an open entrance flanked in front by two pillars and by sedant lions on their copings. The *pradakshina-patha* inside was 4.6 m. wide, with a series of pillars set at intervals, bearing miniature *stūpas* or other symbols on the top. The *stūpa* proper had a basal diameter of about 48.5 m. round the base of the *aṇḍa*. The top *harmikā* was a square balustrade with an imposing pillar in the centre flanked and surmounted by umbrellas. In

STŪPAS

its primary form the *stūpa* was simple like the earliest ones, but it was subsequently renovated and enlarged. Originally it had, like those at Bhattiprolu, Jaggayyapeta and Garikapadu, the slabs encasing the *āyaka*-platforms alone more elaborately sculptured than the rest of the drum, which had more or less plain slabs with little carving, except perhaps for pilasters in low relief at the edges (as at Bhattiprolu and Jaggayyapeta); these pilasters carried animal figures over their campanulate capitals. In addition, there were reliefs of devotees flanking Buddha's symbols. Even during its renovations, the sculptor devoted the greatest attention to the *āyaka*-platform, as in other *stūpas* elsewhere. The circumambulatory over the *medhi* (as can be judged from the remains here and at Ghantasala, Pedda-Ganjam, Nagarjunakonda and Jaggayyapeta) had a parapet on its outer edge, formed of rectangular slabs mortised between uprights fixed at intervals, with a running coping on the top. It would appear that the inner faces of these slabs were finely sculptured. The stone railing at the ground-level, dating from 200 B.C., was subsequently enlarged in the course of reconstruction: it emerged in its final architectural and embellished form (pl. XXV) between A.D. 150 and 200. Then followed the last phase of embellishment of the *stūpa*, when some of the earlier sculptured slabs covering its basal parts were reversed and their erstwhile unsculptured inner faces trimmed and covered with fine sculptures in the period between A.D. 200 and 250.

D. NAGARJUNAKONDA

The great *stūpa* at Nagarjunakonda (pl. XXVI A) belongs to the class of uncased *stūpas*, its brickwork

SOUTHERN BUDDHIST MONUMENTS

being plastered over and the *stūpa* decorated by a large garland-ornament round its *aṇḍa*. The original *stūpa* was renovated by the Ikshvāku princess Chāntisiri in the third century A.D., when *āyaka*-pillars of stone were erected. The outer railing, if any, was of wood, its uprights erected over a brick plinth. The *stūpa*, 32·3 m. in diameter, rose to a height of 18 m. with a 4-m. wide circumambulatory. The *medhi* itself rose to a height of 1·5 m, and the *āyaka*-platforms were rectangular offsets measuring 6·7 by 1·5 m. In its construction the *stūpa* shows a great advance: it had a circular central column, with eight radial walls meeting a peripheral circular wall, thus producing the appearance in plan of a cart-wheel with its hub, spokes and felly. There was a second concentric wall outside with further projections of the radial walls up to it, the two peripheral walls thus forming the bases of the *aṇḍa* and *medhi* respectively, while the inner cross-walls and the filling in between afforded support. Many of the other *stūpas* at Nagarjunakonda (pl. XXVI B) also had the same plan of construction. Also, many of them were cased with sculptured stone slabs.

3. THE CHAITYA-HALLS AND MONASTERIES

In association with these *stūpas*, pertaining to the Hinayāna and Mahāyāna forms of Buddhism, there were *chaitya*-halls and *vihāras* or monasteries, also brick-built. At Guntapalli are found remains of a large *vihāra* and pillared hall. The *chaitya*-hall of the place, of the second century A.D., was 16·5 m. long and 4·8 m. wide, with its walls 1·4 m. in thickness. The semi-circular apse was cut off from the main

CHAITYAS AND MONASTERIES

hall in front by a cross-wall with entries into a circumambulatory round the object of worship placed in the apse—perhaps a Buddha image on a high pedestal. This is one of the largest brick *chaitya*-halls, a second one being a ruined one at Vidyadharapuram near Vijayawada. At Ramatirtham are extensive remains of a monastery associated with the large *stūpa*, 25.6 m. in diameter. There were two large *vihāras*, respectively, 24.7 × 19.8 m. and 27.7 × 12.1 m., five *chaitya*-halls and a number of smaller *stūpas*.

Nagarjunakonda, as a result of extensive excavations, has revealed a large number of *vihāras* and *chaitya*-halls (pl. XXVII A), through which the typical plans and constructional details of these structures can be well-studied. Most monastic establishments of the place were complete and self-contained units, with a *vihāra* or residence for the monks and an apsidal *chaitya*-hall or temple, both attached to a focal *stūpa*—the hypaethral object of worship. The *vihāra* had a rectangular courtyard with a central stone-paved hall covered by a roof borne on pillars of wood or of limestone. All round the courtyard was a row of cells with a verandah in front. While most of the cells were for resident monks, some were used for stores and a large one as a refectory. In front of the entrance to the residential part, on either side of the passage, was a small apsidal *chaitya*-hall, one of which enshrined a *stūpa*-form and the other a symbol, such as the feet of Buddha or a physical representation of Buddha himself (pl. XXVII B.)—thus often coming to be described respectively as the *stūpa-chaitya* and *Buddha-chaitya*. In addition, there were also a number of individual *chaityas*, like the ones near the main *stūpa*. The *stūpas* inside many later

SOUTHERN BUDDHIST MONUMENTS

chaitya-halls were often stone-built.

On the Sankaram hills are found remains of a large monastery in association with rock-cut monolithic *stūpas* and three structural *chaitya*-halls, dating from the second century B.C., though the site continued to be occupied till many centuries later.

At Salihundam, there is a similar pair of *chaitya*-halls, the Buddha-*chaitya* and the *stūpa-chaitya*, in front of the *mahā-stūpa*. Some of the *chaitya*-halls are circular on plan (pl. XXVIII). Close by are the ruins of a monastery.

4. NAGAPATTINAM

In the Tamil land, at the important port-town of Nagapattinam (Thanjavur District), there seems to have existed a Buddhist establishment from at least the Pallava times in the eighth century. It flourished under the patronage of the succeeding Choḷa kings: a Buddhist temple was built here in the time of Rājarāja I (eleventh century) in token of his relationship with the Śrīvijaya kingdom in the Malaya peninsula. This temple, called Chūḍāmaṇi-varma-*vihāra*, suffered destruction in the thirteenth century at the hands of a later Choḷa king, but part of it was standing till the eighteenth century, when it was pulled down by the Jesuit settlers. It was a storeyed structure in brick with some affinities with east Asian monuments.

K. R. SRINIVASAN

V. ROCK-CUT MONUMENTS¹

CONTENTS

	PAGE
1. Introduction	109
2. The earlier monuments... ..	110
A. Bihar	110
B. The Deccan and Gujarat... ..	113
C. The Āndhra region	119
D. Orissa	121
3. The later Buddhist caves	123
A. Gujarat and central India	123
B. The Deccan	124
(i) The main features	124
(ii) Ajanta	125
(iii) Ellora	128
(iv) Aurangabad	128
4. The Brāhmaṇical and Jaina cave-temples	130
A. Udaigiri	130
B. The Deccan	132
(i) Badami	132
(ii) Aihole	133
(iii) Ellora	134
(iv) Elephanta	136
(v) Jogesvari	137
C. The Āndhra region... ..	138
D. The Tamil land	141
(i) The Pallava cave-temples	141
(ii) The Pāṇḍya cave-temples	145
(iii) The Muttaraiyar cave-temples	147
5. The cut-out monolithic temples	147
A. The Pallava monuments	147
B. The Rāṣṭrakūṭa monuments	151
C. The Pāṇḍya monuments	153
D. Monuments in north India	153

1. INTRODUCTION

CONTEMPORARY WITH THE EARLY BRICK-AND-TIMBER architecture Aśoka initiated a movement of

¹For places mentioned in this chapter, see map, fig. 3, p. 156.

ROCK-CUT MONUMENTS

cutting living rocks into architectural forms. This, in the course of a millennium and a quarter from his time, resulted in a series of religious resorts and temples excavated into or carved out of rocks. Such examples as have survived time and weather because of their more permanent fabric are, so to say, petrified versions of the contemporary brick-and-timber or the humbler wattle mud-and-thatch structures. Though in an entirely new material, they reproduce the interiors or exteriors, or often both, of the structural models they imitate even to the smallest architectural detail. As such, these stone copies afford good material for the study of contemporary architecture and related sculpture and embellishment, as also the gradual perfection achieved in expressing architectural and sculptural motifs in the new material.

This mode of excavating into or carving out of rocks and creating partial or total imitations cannot, from the methods involved, be called architecture which would denote building up of component parts, designed with calculations of strength of the components, distribution of load and counter-action of thrusts, stresses and strains. But it can be conveniently designated 'rock-architecture' or 'architectural sculpture' because the products are sculptures of a structural type on a grand scale.

2. THE EARLIER MONUMENTS

A. BIHAR

The eight cave-resorts excavated by Aśoka and his grandson Daśaratha into the hard and refractory quartzose-gneiss of the Barabar and Nagarjuni hills and the outcrop at Sitamarhi near Gaya in Bihar, their home-province, form the earliest of the

EARLIER MONUMENTS

series. These, according to the associated inscriptions, were resorts fashioned out for the Ājivika monks. There are four in the Barabar hills, three in the Nagarjuni hills and one in the Sitamarhi rock. These caves, mostly, are not cut with their linear axis perpendicular to that of the parent rock but are parallel to the lie of the rock with an entrance made at some convenient point along the linear scarp. The most characteristic feature is the fine mirror-like polish of the interior. The Supiyā cave in Barabar and the Gopikā cave which is the largest of the series in Nagarjuni hills, and the Vahiyakā cave in the same hill are simpler in being mere vaulted halls (*śālās*) with a high polish on the interior surface-walls and simple trapezoid entrances with sloping jambs. A more primitive shape, like a Toda hut, is presented by the Vaṭathikā cave in the Nagarjuni hill and the solitary cave in Sitamarhi rock, where the walls are also curved without any perpendicular sides as in the first-cited examples. Thus, there being no demarcation between the wall of the oblong hall or chamber and its vaulted roof, the section looks arcuate. The Sudāmā cave and Lomās-rishi cave (pl. XXIX), which is partially incomplete and is without an associated Mauryan inscription, are more advanced and form the most important examples. They essentially consist of a *śālā* as above (a *maṇḍapa* with vaulted roof), oblong on plan and connected on one of the shorter sides with a circular cella, both with their linear axis parallel to the outer face of the rock, and with the main entrances located on the long side near the end farther away from the cells. The inner circular chamber, which would correspond to the sanctum (*garbha-gṛiha*) is apparently separated from the *śālā* in front by a wall, which,

ROCK-CUT MONUMENTS

except for the narrow intervening doorway, would complete the circular plan of the chamber. The Lomās-rishi cave has its outer entrance with the usual sloping jambs and a straight lintel framed into a gabled porch or *nāsikā* more elaborately carved in imitation of timberwork on its arched top formed of two curved rafters (*gopānasas*) and filled in by two lunettes, the intervening spaces filled by perforated work above and a frieze of eight elephants below, which are remarkable as specimens of early sculpture. Each pair of opposed elephants is shown in obeisance to a *stūpa*-symbol carved on the radial arm connecting the lunettes with the arch-rafter. Over the curved rafter is shown a roof of laminated planks surmounted by a finial or *stūpi* in front. Likewise the domed roof, *kūta*, of the inner chamber shows the pattern of a reed-thatch while the vertical grooves on the exterior face of the cella-wall simulate a palisade of planks or split bamboo.

The Sonbhaṇḍār at Rajgir, of the third century A.D., is the larger of the two excavations here and is a simple *śālā* type, with a ridged barrel-vault roof, which in section resembles an arch. The hall (10.4×5.2 m.) is 3.5 m. high at the centre and has its entrance with the usual sloping jambs near one end of the long side on the façade balanced by a window-opening—an innovation—at the other end. Since the scarp is recessed considerably for the façade with the door- and window-openings, there is a sort of a verandah which shows evidences of having been extended by wooden rafters, as can be seen from the mortise-holes left therein. The verandah is prolonged slightly beyond one of the longer ends. The other adjoining cave is a simpler excavation, a more or less square cell with a verandah in front, which again is longer than the cave-façade.

EARLIER MONUMENTS

B. THE DECCAN AND GUJARAT

Though the pioneering work of excavating into such hard and refractory rocks continued for about three generations in Bihar and the Maur-yans had simultaneously, as it were, diverted their attention to a great extent to work the softer and more tractable varieties of rock, like the Chunar sandstone, in the shaping and finishing of their monumental free-standing columns and sculptures, the movement of creating architectural forms out of rocks, with the combined experience in stone sculpture, soon shifted its venue to the western part of India. The natural trap-formations of this region were chosen because of the softness in texture and horizontal bedding which rendered easy the work of quarrying, moulding and sculpture. This resulted in a large number of Buddhistic excavations spread over a period of nearly ten centuries and covering the entire trap-area of western Deccan.

The earlier excavations of this series (200 B.C. to A.D. 200), pertaining to the Hīnayāna creed of Buddhism, consist of *chaityas* or temple-halls and *vihāras* or monastic residences, all copies again of structural prototypes in brick-and-timber. For instance, in the case of the *chaityas*, this would be evident not only from the imitated designs and devices peculiar to woodwork but also the actual presence in many cases of woodwork in the roofing and entrance-arches. The more important examples arranged in an approximate chronological series would be those at Bhaja (Poona District), Kondane (Kolaba District), Pitalkhora and Caves 8, 9, 10 and 12 at Ajanta (Aurangabad District), Bedsa (Poona District), the excavations called Pāṇḍu-leṇa and with inscriptions of Gautamiputra, Nahapāna and Śrī-Yajña at Nasik, Junnar and Karle (Poona District),

ROCK-CUT MONUMENTS

at Kanheri in Salsette island near Bombay and Aurangabad.

The *chaityas* are long halls with posterior apsidal end (*chāpa*) and one or more large *torāṇa* or *nāsikā*-openings on the façade which form the most attractive and carefully-designed part of the whole. The façade, relieved with designs of arcade and railing and an occasional sculpture, has often an anterior attachment in the form of a portico or vestibule—a *maṇḍapa*—usually of timber. The chronology is indicated by the stylistic development based essentially on the degree of imitation of the wooden prototype, the earlier being closer to the originals with a liberal use of actual timber, particularly in the façade-screens. The evolution of the *nāsikā*-arch (the so-called *chaitya*-arch) of the façade from a simple to an elaborate curve, of the pillar from simple to more elaborate forms with capitals and of the supports in general from a slant to a perpendicular position, as also the transformation of the shape of the *stūpa*-form from a low dome to almost a cylinder, constitute the criteria for their chronology.

The *chaitya* (pl. XXX) at Bhaja (*circa* 200 B.C.) betrays its initial character in its many features, including a pronounced slant of the pillars, closely-ranked wooden roof-ribs (*gopāṇasas*), a free use of timber also in other parts as well such as the screens of the façade-openings and an undeveloped *jhaṣa* or *nāsikā*-arch, similar to that of Lomās-rishi cave. The hall, 16.75 m. long and 8 m. broad, is divided into a central nave with lateral aisles, over 1 m. wide, by two rows of pillars. The roof is vaulted, ending at the rear into a semi-dome, and at the centre of the resulting apse-end is a rock-cut *stūpa* crowned by a wooden *harmikā*, with a circumambulatory in continuation of the lateral aisles.

EARLIER MONUMENTS

The Kondane *chaitya*, a little larger and slightly later in point of time, has a façade of similar type, with the façade-pillars partially of stone instead of being wholly of wood. The façade-arch too displays more finished lines.

The ruined *chaitya* of Pitalkhora and the similar Cave 10 at Ajanta show a slight advance in having rock-cut-roof ribs in place of timber-attachments of the earlier examples. While there are part-constructions of brick, for instance the pillars and *stūpa*-structure at Pitalkhora necessitated by a natural fault in the rock, the Ajanta example is a more ambitious excavation measuring 30·5×12·2×10 m., and its *stūpa* is more elaborate with a double-tiered base and a slightly-elongated dome. The *chaitya* at Bedsa shows an elaborate façade fronted with pillars and pilasters with capitals, often described as 'Persepolitan', surmounted by spirited sculpture—human and animal.

The Pāṇḍu-leṇa at Nasik and Cave 9 at Ajanta are alike in that they are totally free from timber-attachments even on their façades, which are entirely of the rock-medium. The Ajanta cave-façade is well-balanced and elaborate in design, with a door-opening at the centre flanked by a window on either side and carrying a gallery above on a broad ledge. The hall within is not an apse but an oblong vaulted *sāla* and the ceilings of the aisles, instead of being vaulted as in other cases, are flat. The vault of the *sāla* was originally braced by wooden ribs, evidently removed subsequently. Perhaps these ribs, here and in the earlier and later examples, instead of merely being servile imitations—without function as structural components in the context of rock-excavations,—served as holds for fixing painted canopies (*vitāna*) made of thin planking and cloth.

ROCK-CUT MONUMENTS

The ornamental façade of the Pāṇḍu-leṇa is two-storeyed, presenting a curved lunette above the doorway and an arcade with repeated *stūpa*-motif and 'Persepolitan' pillars flanking the arch-opening. The pillars inside are almost perpendicular, show better proportions and have a pot-base and square abacus, while the *stūpa* at the rear has a tall cylindrical drum. There was a musicians' gallery immediately inside and above the doorway.

The contemporary Manmodā *chaitya* at Junnar shares many of the features of the Pāṇḍu-leṇa, including the carved lunette on the façade, absence of a wooden frontage and portico and presence of the same type of pillars inside. Of the four other excavations in Junnar of about the same date, the Tulajā-leṇa is remarkable for its circular plan (7.75 m. diameter), recalling the example at Guntapalli on the east coast (below, p. 119) and indicating the survival of perhaps another archaic type of *chaitya* (temple), viz., the *vr̥tta* type. The central *stūpa* is surrounded by a ring of twelve plain pillars of octagonal section carrying a dome on top, while the circular aisle or circumambulatory is half-domed, much like the Sudharṇma-sabhā of the well-known Bharhut reliefs. There is a similar *chaitya* at Kondavite.

The magnificent *chaitya* at Karle (pl. XXXI), 38 × 14.2 × 13.7 m., is the largest and most evolved of the series marking the culmination of Hinayāna rock-architecture. The ornate façade is two-storeyed as at Nasik, with three doorways in the lower part and an upper gallery over which is the usual horse-shoe, *nāsikā*-arch, showing remains of concentric arches forming a pediment. Sculptures of donor-couples intervene between the door-openings as also indifferent later palimpsests of Buddha figures in the lower storey. The setback of the entrance provides

EARLIER MONUMENTS

a frontal porch, the sides of which are filled by sculptures of architectural storeys, the lowest showing a grand frieze of elephants. In front are two free-standing *dhvaja-stambhas* or *dharma-stambhas* with 'Persepolitan' capitals, surmounted by addorsed lions originally supporting a *dharma-chakra*, like the Aśokan columns. The great pillars which separate the central nave from the aisles are truly perpendicular with pot-bases, octagonal shafts and 'Persepolitan' capitals, with abacus carrying beautiful pairs of kneeling elephants, each bearing a couple in front and caparisoned horses with their riders. The interior *stūpa* is tall and with cylindrical drum surrounded by two courses of railing. The original wooden umbrella on the top is intact. This *chaitya* is indeed one of the most magnificent monuments of India.

The last of the series is the Kanheri *chaitya*, 26.2 × 12.2 × 15.2 m., much resembling the Karle *chaitya*, of which it is nothing but a rather degenerate copy. The interior had wooden rib-rafters, the pegs of which are still *in situ*; the presence of rafters in an otherwise very highly evolved excavation like this was purposeful, as indicated earlier (p. 115). The outer screen is modelled with large figure-sculptures of donors, which in their forms and execution maintain intact the sculptural standards of Karle. In front were the lion-pillars, not free-standing as at Karle but attached to the rock.

Among the excavations at Aurangabad, the solitary example of Hīnayāna *chaitya* amidst a group of late Mahāyāna *vihāras* is interesting. Though half-ruined, this small *chaitya* exhibits many characteristics of the Hīnayāna phase, having a simply-designed plain and low *stūpa* at its apse. This and other features, such as the rib-vaulting of the main nave,

ROCK-CUT MONUMENTS

though the aisles are flat-roofed, the plainness of the interior, the octagonal pillars and the curved panels in the frieze over the capitals at the base of the apse-vault would all indicate its very early character and assign it to the second-third century A.D.

The extant remains on the hills of the ancient city of Junagadh indicate the presence of numerous rock-cut caves of presumably Buddhist origin, mostly ruined at present. Some seem to have had ancient inscriptions which, according to Colonel Tod, were of the Aśokan period. The extant remains on the scarp of the hill-fort called Ūparkoṭ and Naudurgā appear to represent the most ancient caves, perhaps coeval with the Barabar-Nagarjuni group. They are plain excavations and do not exhibit much by way of plan and design.

The Hinayāna *vihāras* or monasteries found associated with the *chaityas* at the above places, though not of much 'architectural' importance, embody many interesting features. They are facsimiles in rock of the frontage and interiors of structural *vihāras*. Though not of exactly identical designs but presenting various forms and plans, they yet have certain common features which would differentiate them from the later Mahāyāna products in and near the same region. These *vihāras* are in the typical and simpler cases generally astylar halls, with a number of monks' cells excavated into their three side walls, the hall or *maṇḍapa* having one or more main entrances in front.

The earliest perhaps are the four *vihāras* (Caves 8, 12, 13 and 16 A) at Ajanta associated with the more or less contemporary *chaityas*—Caves 9 and 10. Vihāra 12 is an example of a single-storeyed monastery which has lost much of its original façade. A similar single-storeyed *vihāra* is to be found at

EARLIER MONUMENTS

Kondane, attached to the *chaitya* of that place, but here the central hall is pillared; apparently it had a pillared portico in front over which projected a massive cornice with an entablature imitating woodwork. Behind the portico, the central doorway with windows on either side leads through the screen-wall into the hall surrounded by a peripheral colonnade. Cells opening into this hall are dispersed on the three sides. The Pitalkhora *vihāra* also consists of a pillared hall, with a few of the cells extant, and, in contrast to the others with flat roofs, has a ribbed vaulted roof and lattice-windows, all modelled as if it were carpentry.

The three *vihāras* at Nasik (Caves 3, 8 and 15), fashioned, according to the inscriptions, in the times of the Sātavāhana Gautamīputra, the Kshatrapa Nahapāna and the Sātavāhana Śrī-Yajña, are single-storeyed but highly-decorated examples. They have frontal pillared porticos (pl. XXXII), astylar halls and cells provided with rock-cut couches opening into the hall from the three sides. But the three show individual variations in their pillar-forms.

The Bhaja *vihāra* is irregular on plan. It has an outer verandah and an inner hall separated by a wall with two doorways and a barred window. The hall has cells excavated on its two sides. The roof of the verandah is barrel-vaulted with gable-ends.

C. THE ĀNDHRA REGION

On the east coast of the peninsula, at Guntapalli (Krishna District) is a group of two *vihāras* and a *chaitya* excavated into the coarse sandstone hills and forming part of a large *saṅghārāma*-complex of a few structural monasteries, *stūpas* and *chaityas*. The rock-cut *vihāras* and the *chaitya-griha* may be

ROCK-CUT MONUMENTS

assigned to *circa* 200 B.C., not far removed in point of time from the early excavations of Aśoka and his grandson near Gaya (above, p. 110). They may indicate a parallel shift of the venue of rock-architecture from Bihar to the eastern coast of the peninsula, where sandstone was exploited for its greater tractability. The Guntapalli *chaitya* is similar to *vr̥itta-chaityas* of Junnar (Tuljā-leṇa) and Kondavite on the western coast of the peninsula but recalls more the inner circular cells and façades on the Lomās-rishi and Sudāmā caves in the Barabar hills. It is a petrified version of a circular hut with a hemispherical roof (*kūta*) resting on a basket-like wooden framework and enshrining a monolithic *stūpa* as the object of worship in its centre with a circumambulation all round it inside. The frontal projected porch is a *nāsikā* with the doorway. The ceiling inside shows sixteen curved ribs—the *lūpas* or *gopānasas*—dispersed radially, springing from different points over the wall of the cell and converging to the point at the apex, interconnected at intervals by loops or *valayas* of decreasing diameter from below up, the *valayas* run as if through holes jumped into the thickness of each *lūpa*. The *nāsikā*-entrance shows similar imitation of timberwork.

The lower and better-preserved of the two rock-cut *vihāras* here has a façade fairly recessed from the scarp, leaving a narrow terrace in front below and an overhanging ledge above, fashioned so as to form a narrow verandah in front. The façade has three main doors with usual *nāsikā*-arcade above and flanked by a window on each of the sides. Each of the doors leads into a hall of rectilinear shape but of differing dimensions. The inner walls of these three halls are pierced by one or more openings, which lead into further compartments excavated

EARLIER MONUMENTS

into the core of the rock beyond, with a square annexe on their east, west or north, thus showing a haphazard design. The second *vihāra*, cut at a higher level, was more or less similar but is now hopelessly damaged. The coarse work, narrow entrances, lack of sculpture and other features would indicate their very early age and the fact that they are pioneering examples in this rock-medium.

Originally when the structural *stūpas* containing the relics of or associated with the Master or his venerated followers came to be objects of worship and circumambulation, they were sometimes enclosed in railings with *torāṇa*-entrances, forming hypaethral temples, as it were, and in that restricted sense such *stūpas* were also called *chaityas*. The next step would be to enshrine a *stūpa*-symbol as the object of worship in a *chaitya-griha* of varied plan—apsidal, circular, etc.—as is seen in the structural and excavated temples. The large memorial *stūpas*, of monolithic nature, which are found in the *saṅghārāma*-complex of structural *vihāras*, *chaityas* and *stūpas* at Sankaram (Visakhapatnam District) on the east coast are to be taken as totally carved-out lithic copies of structural *stūpas* that reveal the external aspect of the structural originals, as similar smaller *stūpas* occupying the place of worship inside the *chaitya-grihas* do. The monolithic *stūpas* here include some of the largest known of their kind, and the main one in front of the *vihāra* has a diameter of about 20 m.

D. ORISSA

The sandstone outcrops on the twin hills of the Udayagiri and Khandagiri (Puri District) were, due to their softness and easy workability, chosen for the excavation of a series of caves—Jaina monastic

ROCK-CUT MONUMENTS

retreats—datable from 100 B.C. to the earlier years of the Christian era. Out of about thirtyfive such caves, only about seventeen are of any importance, all of them but one in the Udayagiri. Many of them are natural caverns enlarged and fashioned suitably by artificial cutting. A few others are single cells only or verandahs with cells excavated beyond them. The other excavations consist each of several cells together with a portico with a frontal open courtyard. The largest, which are four in number, are double-storeyed galleries made up of cells with pillared verandahs in front grouped round a common courtyard on its three sides, the fourth being open for access. Thus, no systematic plan seems to exist. The pillars are 'wooden' in style, simple, with square shafts, sometimes with corners bevelled to make the plan an octagon, in many cases with oblong notches on top into which the beam above is shown as sunk to its full depth, with additional brackets sprung from the top of the shaft below the notch. These brackets have fanciful vegetal patterns like the branch of a tree as in Cave 1 (Rāñī-gumphā) or depict figures of humans riding *vyālas* as in Cave 9 (Mañchapuri-gumphā). The entrances to the cells have semi-circular *toraṇas* spanning their lintels and resting on pilasters, with capitals of addorsed animals—thus constituting a real *torāṇa*-frame to the entrance. The spaces between the *torāṇas* are linked by bands of rail- or *vedikā*-motif. Cave 1 in the Udayagiri (pl. XXXIII), perhaps the earliest, is the largest and best preserved. It is two-storeyed, overlooking a courtyard which it surrounds on three sides. It is characterized by a long narrative sculpture-frieze along the walls of the upper storey. Cave 10 (Gaṇeśa-gumphā, so called because of its having two bold figures of elephants) is notable for

EARLIER MONUMENTS

its sculptured frieze which is the most elaborate. Cave 9 in the same hill and Cave 3 (Ananta-gumphā) in the Khandagiri (pl. XXXIV) are noted for their fanciful brackets.

3. THE LATER BUDDHIST CAVES

A. GUJARAT AND CENTRAL INDIA

Before the next phase of activity started, some two centuries later, at Ajanta and its neighbourhood, the venue of rock-architecture shifted perhaps into the peninsula of Gujarat in the west.

There is not among the one hundred and forty caves of the western area a single apsidal *chaitya*. There are numerous cells, 4 to 6 m. in depth, containing *stūpas* inside. They are mostly astylar and devoid of any ornamentation. The *vihāras* are constituted by single cells or small groups of cells with a pillared verandah, but seldom, if ever, surrounding a hall or forming any architectural combination. A few are of the nature of large halls, 15 to 18 m. square but generally without pillars or cells, perhaps indicating that they were assembly-halls or refectories, with the plainest ornamentation if any. The series of caves lower down on the Junagadh hills seem to belong to later periods and the original pattern is complicated by the excavation of later cells. Some of these early caves are of the nature of large halls, with recesses cut into their sides, surmounted by a frieze of *nāsikā*-arches.

Likewise, the group of excavations—many of them fallen in and destroyed—at Bagh (District Dhar) seem to belong to the period between the fourth and fifth centuries A.D. and are of the Hīnayāna persuasion. There is no apsidal *chaitya* in

ROCK-CUT MONUMENTS

the extant remains, all of them being *vihāras* or monasteries. Of these, four are important. They are essentially large pillared halls behind façade-verandahs (pl. XXXV A) with rows of monk-cells excavated into the side-walls, the central one in the hind wall forming the shrine housing *stūpas*. The pillars have bases and capitals with the shafts chamfered into octagons or with sixteen or more sides. The most remarkable features are the framed doorways and windows, exhibiting multiple mouldings on their jambs, sill and lintel, with carved overdoors carrying sculpture-panels of the twin river-goddesses Gangā and Yamunā on the top corners, and the sculptures inside which are not of so late and fully-developed a type as what followed at Ajanta and Ellora

B. THE DECCAN

(1) *The main features*

The Mahāyāna creed of Buddhism asserts itself in the rock-architecture of the second phase (*circa* A.D. 450-700) in the Deccan, where, after a lapse of about two centuries and a half, more numerous excavations were made into the same trap-cliff surrounding the horseshoe-shaped valley of Ajanta in continuation of the pre-existing excavations and afresh at other places such as on the continuous scarp at Ellora, to mention the most outstanding ones. Out of the total thirty excavations at Ajanta, all except the seven of the earlier phase, viz., two *chaityas* and four *vihāras* (above, pp.115 and 118) belong to this phase. They were excavated in the time of the Vākātakas, a greater number of them between A.D. 450 and 600, the last one perhaps about A. D. 650, though activity, particularly embellishments may

LATER BUDDHIST CAVES

have continued till the eight and ninth centuries, when the Rāshtrakūṭas were in power. Here and elsewhere, while the *chaityas* essentially retained features identical with those of the earlier phase, the timber-imitations are totally in stone, and the Buddha statuary is the most dominant feature. There is a prominent Buddha icon standing out in front of the central *stūpa*, the object of worship in the apse of the *chaitya*. The figure is placed inside a *nāsikā*, projected from the drum and base of the dome of the *stūpa*, which, while recalling similar brick-built votive *stūpas* of peripheral disposition with *nāsikās* on all the four faces in the Nālandā complex, suggests the conception of the *stūpa* itself as a circular shrine with a domical roof or a vaulted entrance-porch projected in front as a *śuka-nāsikā*, the germs of which were to be seen in the Guntapalli rock-cut *chaitya* (above, p. 116).

(ii) *Ajanta*

The Ajanta *chaitya*, Cave 19, apsidal and more or less of the same dimensions as the *chaitya* of Cave 10 of the earlier phase, has on its façade but a single doorway, instead of the usual three, with an elegant pillared portico in front (pl. XXXVI), opening out into an attractive outer court, with side-shrines cut into its rock-walls. The pillars inside have developed capitals, the *kumbha* or cushion-shaped member being most prominent; the shafts are decorated. The corbel-brackets and the parts above are richly decorated with sculpture, even as the façade is, with figures of Buddha and his attendants or with other panel-sculpture. Cave 26, which is an apsidal *chaitya* again, later in point of time, is also of a similar plan but is too ornate and richly encumbered with sculpture and decoration, which take away

ROCK-CUT MONUMENTS

much of its grace. The elongated drum of the central *stūpa* is carved all round, in addition to the Buddha figure inside the front *nāsikā*-projection. The last *chaitya* pertaining to this phase is the *Viśvakarmā*, Cave 10, at Ellora, the most well-known of the Buddhist excavations there (pl. XXXVII A). It is larger than the Ajanta *chaityas* but is not so lavishly sculptured, though its *stūpa* is more evolved with a conspicuous projecting *nāsikā* containing a large seated Buddha flanked by attendants and flying *vidyādhara*s (pl. XXXVII B). The *chaitya*-entrance lies through a large open court surrounded by a pillared corridor, the pillars surmounted by friezes of carvings. The façade-entrance is overtopped by a *torāṇa* different from the earlier ones : it is a trefoil arch with a central circular opening. There is a balcony in front of it. This arch and the storeyed ones and the associated *āmalakas* over the lateral entrances recall similar motifs which are characteristic of the contemporary and late Brāhmaṇical temples of north India.

The *vihāras* of Ajanta (except those unfinished or destroyed), viz. Caves 1, 2, 3, 5, 14, 23, 24, 28 and 29, combine in them, as at Bagh, the elements of both monastic abodes in the form of plain and smaller monk-cells and larger and more prominent shrine-cells. Thus these 'abodes of stone' or 'hill-abodes', called appropriately *śaila-grihas* in an inscription datable to A.D. 450-525 in Cave 26, would become *vihāra-chaityas* if we are to equate the term *chaitya* as a shrine containing the object of worship. In fact, the inscription in Cave 16 of A.D. 475-500 calls it a *chaitya-mandira*. They are generally single-storeyed excavations, entered through an outer verandah, with a large central hall having a cella enshrining a Buddha or

LATER BUDDHIST CAVES

related form at the rear, often with a transversely rectangular vestibule intervening between the shrine and central hall. This would also mark the next step in the development of the *vihāra-chaitya*, which at places like Bagh enshrined a *stūpa*-form, replaced here by a Buddha sculpture. This would also correspond to the principal axial arrangement in the plans of structural temple-complexes, viz. of *maṇḍapas*, such as the *mukha-maṇḍapa* (verandah) *mahā-maṇḍapa* (central hall), *antarāla* (vestibule) and *garbha-griha* (shrine-cell), as revealed in the temples at Nagarjunakonda, of an earlier date, and anticipating the pattern of structural temples of subsequent times. When the hall is pillared, the arrangement of a central square enclosed by four or more pillars with the other pillars, twelve or more, forming a peripheral series, as is to be seen in the Bagh caves also, it would suggest the *navaraṅga* or *raṅga-maṇḍapa* of the Chālukyan and similar structural temples to come (see chapter VII below). Into the lateral walls of the central hall and sometimes also into its hind walls, on either side of the shrine-face, or vestibule, are cut cubical cells, for the priestly monks, fewer in number than in regular monasteries rock-cut as in the earlier series here and at Bagh, or brick-built elsewhere, suggesting their restriction to those of the higher hierarchy or to those immediately connected with the ritual-worship of the deity in the principal *chaitya* or cella behind. Often there are additional *chaityas* or shrines on either side of the principal one at the rear of the central hall, or on either side of the front porch or verandah. Even the two-storeyed excavations, for instance Cave 6, have essentially the same plan. The sanctum contains a large figure of Buddha, in high relief often cut-out, with more

ROCK-CUT MONUMENTS

relief-sculptures of attendants, Bodhisattvas, etc., in the vestibule or *antarāla*. In Cave 27, the *antarāla* is advanced into the central hall.

(iii) Ellora

The Buddhist excavations at Ellora would fall into three sub-groups, the earliest being Caves 1, 2, 3 and 5 dating round about A.D. 400. Caves 4 and 6 to 10 would belong to the sixth-seventh centuries. Caves 11 and 12 are unique in themselves. Cave 1 in the first series is simple and perhaps an experimental excavation. Caves 2 and 3 are essentially similar to each other in having an outer verandah leading by a door behind into a pillared hall (*maṇḍapa*) with a shrine-chamber beyond. Cave 2 is exceptional in that it has large lateral galleries excavated on either side of the central hall. Cave 3, perhaps earlier of the two, has monk-cells, five on each side, excavated into the lateral walls of the *maṇḍapa* or central hall, with two more on either side of the shrine behind.

Cave 4 is two-storeyed, the ground floor consisting of the hall, antechamber and shrine behind it, with additional cells on the lateral and hind walls of the hall. The ruined upper floor has a circumambulatory round the shrine and two extant cells. Cave 8 has again a large hall with three monk-cells on its north wall. What is more is that the posterior shrine enshrining a large Buddha is fully cut out and provided with a circumambulatory all round, there being an antechamber or a vestibule (*antarāla*) in front. On the north wall of the ambulatory again are monk-cells. Cave 6 has the usual features—verandah, hall, antechamber and shrine in the axial plane but with a lateral hall in addition provided with six monk-cells, suggesting the isolation of the

LATER BUDDHIST CAVES

monastery or priest-cells from the temple proper. Cave 7 has in its hall behind the verandah a central series of four pillars and twelve unfinished cells on its three side-walls. The door-frame of the shrine-chamber is moulded. Cave 9, strictly speaking, is a long hall or *mandapa*. Its hind wall is divided into three bays by four pilasters, the central one containing a seated Buddha in high relief, with attendants carved on the lateral bays.

While Cave 10 is an apsidal *chaitya*, already described (above, p. 126), the seventh-century Caves 11 and 12 (pl. XXXV B), called respectively 'Do-tal' and 'Tin-tal' (two- and three-storeyed), are perhaps the largest of this class of Buddhist excavations, remarkably original in their plan and storeys and containing interesting iconographic sculptures and architectural embellishments. Though both of them are really three-storeyed, the Do-tal is so called because its ground floor remained buried till it was recently exposed.

A similar excavation, now called Anantaśayana-guḍi, at Undavalli (Guntur District) on the south bank of the river Krishna, on the east coast, is also of this class and is cut into the local coarse sandstone hill. It is also of the seventh century and was excavated originally by those who excavated the Bokardan caves farther west near Aurangabad and at least the upper cave in the Akkanna-Madanna group in Vijayawada, on the north bank of the Krishna (below, p. 138).

(iv) Aurangabad

The excavations at Aurangabad include a Hīnayāna *chaitya* already described (p. 117). Of the *vihāras*, which are eight in two groups, all belonging to the seventh century, those numbered 3 and 7 are

ROCK-CUT MONUMENTS

the finest and best preserved. Each of them illustrates a different form of plan. While Cave 3 is of the usual type with pillared hall and cells Cave 7 has its cella occupying the centre of the hall with a perambulatory, suggesting on plan a central square shrine with a *maṇḍapa* all round, as is to be found in some of the Brāhmanical caves described later (chapter VII). But the most striking feature of the *vihāra-chaityas* of this place is the bold statuary with figures almost cut in the round and sometimes of massive proportions, though the designs as on the pillars are in moderate relief.

4. THE BRĀHMANICAL AND JAINA CAVE-TEMPLES

By the end of the first half of the first millennium after Christ the followers of the Brāhmanical and Jaina creeds had adopted the rock-cut mode of architecture for their temples and shrines. In the course of six centuries till the eleventh, many examples of such rock-cut architecture were created, they being far more numerous in the south than in the north, the majority of them being Brāhmanical and only a few Jaina.

A. UDAIGIRI

One of the earliest groups of importance is that on the sandstone hill at Udaigiri (Vidisha District) about 7 km. north-east of Sanchi and not far from the ancient city of Vidiśā, with their beginnings in the first years of the fifth century A.D. in the times of the Guptas — during the reigns of Chandragupta II and his immediate successors. Of the twenty forming the group, half the number are mere rectangular niches of varying dimensions cut into the face of the rock, some having large sculptures or sculpture-groups carved in high relief, such as

the Varāha and Anantaśāyī panels. The others, except one, constitute 'cave-temples', being partial or total excavations, each consisting of a rectangular rock-cut shrine-chamber and a pillared portico in front, the latter in most of the cases structural, the façade having a row of four pillars with greater intercolumniation between the inner two—a characteristic Gupta feature; so also are their square bases, octagonal and ultimately sixteen-sided shafts, carrying the vase-and foliage (*kumbha-vallī*) capitals. The rock-fronts of the shrine-chambers are pierced by door-openings, framed by an elaborate overdoor, well carved and flanked by pilasters corresponding to the pillars of the *maṇḍapa*-façade (pl. XXXVIII A). The laterally-extended parts of the overdoor above the lintel often have panels depicting the river-goddesses Gaṅgā and Yamunā—one at either extreme, while below on either side of the jambs are relief-sculptures of door-keepers (*dvāra-pālas*). Additional sculptures sometimes adorn the wall-spaces beyond the *dvāra-pālas* extending often to the returning walls of rock forming partially the side-walls of the *maṇḍapa*. The interior of the shrine-cell is plain, often with a sculpture of the deity in worship on the hind wall or on a pedestal made for it on the floor. The last cave, the largest excavation and perhaps Jaina in nature as indicated by a later inscription, is different in having its interior partitioned into many chambers by structural rubble-walls. The exception mentioned above is the Tāwa cave, more or less a circular monolithic temple, hewn out of an isolated mass of rock into a hemisphere on a base and surmounted by a large flat stone in the form of a *tāwa* (griddle). The inscription inside it says that it was fashioned by a minister of Chandragupta.

ROCK-CUT MONUMENTS

B. THE DECCAN

(i) *Badami*

The south Indian cave-temples were excavated by the Chālukyas of Vātāpi in the sixth and seventh centuries, their political successors the Rāshtrakūṭas of Mānyakheta between the seventh and ninth centuries, by the Pallavas of Kāñchi between the sixth and ninth centuries, and by the Pāṇḍyas of Madurai in the eighth and ninth centuries, as also by contemporary minor and subordinate dynasties of these imperial powers. The major powers were not only political rivals but competitors in the patronage of art, architecture and literature.

The Early Chālukyas chose the finely-grained and horizontally-stratified sandstone cliffs of Badami (Bijapur District), which facilitated excavation of comparatively large cave-temples and the execution of fine sculptures and intricate carvings in them. There are four such cave-temples, three Brāhmanical and the fourth Jaina. The earliest of them (Cave 3), dedicated to Viṣṇu, is the largest of the series and was excavated, according to its inscription, in Śaka 500, i.e. A.D. 578, by Maṅgaleśa, a powerful ruler. It was followed in quick succession by the other two, Cave 2, the smallest, also dedicated to Viṣṇu, and Cave 1, of medium size, dedicated to Śiva (pl. XXXIX). The Jaina cave-temple at the very top of the hill is later by about a century from the rest.

These cave-temples essentially consist of a rectangular pillared verandah (*mukha-maṇḍapa*), a more or less square pillared hall (*mahā-maṇḍapa*) and a small almost square shrine-cell (*garbhagriha*) at its rear, all in an axial plane and entirely

BRĀHMANICAL AND JAINA CAVES

rock-cut, constituting the flat-roofed *mandapa* type of temples. The façade-opening is wide and sufficiently high. The façade-pillars are tall and massive, often carved and of square section carrying brackets (*potika*) below the beam, the massive overhanging ledge in front forming a sort of eaves or cornice (*kapota*) with a framework imitating wooden cribs below. The beam over the brackets as also the under-frame of the cornice are often strutted up, as it were, by bold caryatid-like supports of human, celestial and animal figures sculptured almost in the round. The ceilings of the verandah are formed into coffers by cross-beams and filled with relief-medallions. The inner pillars, especially the inner row of the verandah, though square at base, are complete with capital-components of circular section, viz. the vase-shaped *kalasa* and the cushion-shaped bulbous *kumbha*, to mention only the most prominent. The pillared hall in the interior shows slight variations in the disposition of the columns, but invariably, as on the façade, intercolumniation between the central pillars is slightly greater than that between the lateral pillars. The inner pillars are polygonal in section.

(11) *Aihole*

The two cave-temples at Aihole (Bijapur District), viz. the Rāvalagudi (circa A.D. 700), dedicated to Śiva, and the slightly-later Jaina cave-temple excavated into the low sandstone outcrops, would perhaps mark the latest of the Early Chālukyan series. Though smaller than the Badami cave-temples, these are interesting from the points of view of design and sculpture. The pillars are more slender, and the capitals have all the usual components of the order. The Śaivite excavation consists of

ROCK-CUT MONUMENTS

a hall and a large cella one behind the other, the front one forming the *mandapa* and the rear one the shrine with a rock-cut *linga*. There are also two smaller lateral halls excavated on the wings of the *mandapa*, while in the case of the Jaina cave-temple the front verandah is more pronouncedly rectangular.

(iii) Ellora

At Ellora, the high trap-ridge, which had afforded the venue for a series of Buddhist rock-monuments (above, p 128), now provided scope for Brāhmanical and Jaina works. The Brāhmanical cave-temples, occupying the central section of the hill and the parts higher up, belong to the period of the Chālukyas and their Rāshtrakūta successors, who came to power in this region in the middle of the eighth century.

The Brāhmanical excavations (Caves 13 to 29) are mostly Śaivite in character and would fall into two distinct chronological series, the earlier series being more after the models of the preceding Buddhist excavations and characterized by the absence of an image or symbol, like the *linga*, in their sanctums. The later series are simpler and more after the models of the south and contain an image in relief, such as Mahesa-murti, on the rear wall of their sanctum, a rock-cut *linga*-pedestal and sometimes a rock-cut *nandi*.

Cave 21, called the Rāmesvara (pl XL), would represent the earliest of this group, and along with those adjacent, viz., Caves 20, 22, 23 and 24, would perhaps belong to the early seventh century. Caves 14, 17, 18, 19, 25, 26, 27 and 29 are perhaps to be dated to the close of the same century. Cave 15 (Daśavatāra), which is double-storeyed (pl XLIV), would pertain to the first half of the eighth century.

BRĀHMANICAL AND JAINA CAVES

and mark the culmination of the Chālukyan phase. Caves 18 and 27 consist primarily of a hall or *maṇḍapa* with niches on its side-walls and a shrine behind with an intervening antechamber (*ardha-maṇḍapa*). Caves 18 and 22 show an elaboration in that their halls have lateral galleries. In Cave 25 lateral galleries are attached to the antechamber. Caves 14, 17, 20, 21 and 26 have their shrine-chambers behind the *maṇḍapa* cut out on all sides, resulting in a circum-ambulatory. Cave 29 is of interest because its *maṇḍapa* is almost cruciform on plan with projected entrances on the west, north and south, and with a *nandi*-platform in the court in front of the main (western) entrance. The square shrine, with a *liṅga* inside, has openings on all the four sides—*chatur-mukha*, anticipating the plan of the similar Elephanta and Jogesvari caves. It is the largest and best-preserved of the three but lacks the sculpture of Maheśa-mūrti of Elephanta (below, p. 136).

The pillars in these caves are varied in nature and design and are simple square or octagonal in section, or generally of the *kumbha-vallī* type with full vases and excrescent foliage at the middle height. The corbels of the pillars, where they exist, are either simple or ornate. The cornice or *kapota* over the façades and shrine-fronts is decorated by horseshoe-shaped *kūḍu*-arches which are small *nāsikās*. The door-frames have overdoors and carry on the top over the *kapota* a line of miniature storeyed shrines or *vimānas* of the southern type or replicas of the different types of superstructure found over the northern temples.

The group of smaller caves on the hill, collectively numbered Cave 21 (Gaṇeśa-leṇa), over a score in number, consist each of a *maṇḍapa* and shrine-chamber behind in each case, with simple pillars on

ROCK-CUT MONUMENTS

the façade. The rear shrine-wall has a relief of Maheśa-mūrti, and in most cases there is a *liṅga* inserted into a circular *pīṭha* on the floor and in one instance at least a rock-cut *liṅga* in addition. The pillars and pilasters are square, the corbels of the Chālukyan type, and the shrine-doorways have overdoors. They may perhaps belong to the eighth-ninth centuries.

The Jaina excavations, Caves 30 to 34, which commenced with the ninth century and continued in the next, follow the earlier Brāhmanical series in design and decoration, differing only in the nature of their sculptural content. Of these Caves 32 and 33 (pl. XLV), both double-storeyed, are outstanding.

(iv) *Elephanta*

The main cave at Elephanta, a small island off Bombay, is distinguished by the exceptional quality of its sculptures, of which that of Maheśa is well-known. The main axis of the excavation is parallel to the length of the rock. Its plan consists of a large *maṇḍapa* supported by twenty pillars on its periphery, eight each on the longer sides and two between the corner-pillars on each of the shorter ones, which have the flights of steps leading from the courts in front and behind. These courts are formed by cuttings which more or less isolate the section of the rock with the excavation from the rest of the mass. In front of the eastern entrance on the floor of the court is a circular pedestal, perhaps for a *nandi*. On the northern side of the main *maṇḍapa* is cut a porch-like *ardha-maṇḍapa* with two pillars and pilasters on its façade, and behind it a rectangular *mukha-maṇḍapa*, longer than the porch by the addition of one more bay at either end. These two

BRĀHMANICAL AND JAINA CAVES

are in design the northern lateral extensions of the main *mahā-maṇḍapa* with an entrance on the open side. The corresponding lateral extension of the same type on the south into the hill contains the niches of the Maheśa and other sculptures. Towards the distal end of the *mahā-maṇḍapa* is cut a *chaturmukha* shrine, square in section and with doors on all the four sides framed by simple overdoors. Inside the shrine is a rock-cut *liṅga*-pedestal, with a spout at its north on top, the *liṅga* being a separate insertion. In front of the shrine is formed an inner or *raṅga-maṇḍapa*, between two linear rows of four pillars, and leaving a circumambulatory bay in front of the shrine as on the other three sides. A cutting into the rock, on the east beyond the northern portico, leads to the eastern forecourt and the main entrance to the temple. On the southern side of this court is a smaller cave-temple dedicated to Durgā. A similar cutting at the western end, beyond the northern portico, leads to the court behind the main temple on the western wall of which is cut a smaller Śiva cave-temple consisting of a square shrine and *maṇḍapa* in front.

(v) *Jogeśvari*

Excavated almost underground into a low trap outcrop in Bombay, this is larger in area than the Elephanta cave, though it is essentially of the same type. The required scarps for the excavation into the central mass was prepared by trenching on three sides. At the eastern and longer end is carved a large *mahā-dvāra* with a central passage and flanking *maṇḍapas* on either side; one of them contains Gaṇeśa. The *mahā-dvāra* leads to an open court and the façade of the *ardha-maṇḍapa* with higher floor-levels. The main part of the temple beyond

ROCK-CUT MONUMENTS

consists of a square *chaturmukha* shrine, surrounded by a pillared cloister, with six pillars on each side, counting the corner ones. This is surrounded again by an outer astylar cloister, with a lower floor-level enclosed by rock-walls on all the sides except for the entrance on the east, west and south. The shrine here occupies a central position and its doorways are framed by elaborated overdoors. On the western side is cut another *ardha-maṇḍapa*, similar to the one on the east, which leads out through a narrow tunnel cut into the rock to the road beyond. On the southern side, the main *maṇḍapa* leads through three openings, with a fine overdoor round the central one, flanked by two intermediate windows, to an extension on this side. It is an outer open *maṇḍapa* which has on its southern façade a row of ten pillars and two pilasters. Outside this is a narrow open court, and the rock-wall beyond has incomplete or abandoned excavations of smaller size, the easternmost of which is dedicated to Śiva and is interesting in having caryatids on its façade-pillars. The original dedication of the main sanctum was to Śiva though it now enshrines a modern idol of a goddess.

C. THE ĀNDHRA REGION

To the early Chālukyan period also belong the upper cave-temple of the Akkanna-Madanna group at Vijayawada (Krishna District) and the double-storeyed cave at Undavalli (Guntur District), which had been originally Buddhist and was perhaps converted into a Brāhmanical cave, called Anantaśayana-guḍi. To this group also belongs the cave-temple in the low hill at Bokardhan (Aurangabad District in the Deccan). The palaeography of the identical and characteristic titles inscribed in all the three

BRĀHMANICAL AND JAINA CAVES

would indicate their contemporaneity. The series of four cave-temples at Advī-Somanapalle (Karimnagar District), excavated into the sandstone hill, though much crude in point of workmanship, perhaps also belong to the early Chālukyan period.

About a dozen cave-temples on either bank of the Krishna, at Undavalli, Penamaga and Sitaramapuram on the south bank, in Guntur District, and at Vijayawada and Mogalrajapuram on the north bank, all in Krishna District, form a separate series in the Chālukyan territory, dating from about 700. They may be ascribed to the contemporary Eastern Chālukya line which ruled from Veṅgi. Essentially these cave-temples consist of a rock-cut hall or *maṇḍapa* with one or more (often three) shrine-cells behind. The hall is astylar or multi-pillared or divided into front and rear sections by two rows of pillars and pilasters, the usual façade row and a parallel inner row. The pillars are usually thick-set, short and square in section throughout or have their middle height bevelled at the corners to an octagonal section, the basal and apical segments remaining square in section. The cornice of the façade is decorated by small horseshoe-shaped ornament—the *kūḍus*. The doorway of the shrine is simple. It often has two flanking pilasters supporting a *torāṇa*-festoon above. Two of these cave-temples were dedicated to Durgā and the others to Śiva or Viṣṇu. The sculptural content is meagre when compared to the Chālukyan specimens at Badami and Aihole.

In the Bhairavakonda hills at Kottapalle (Nellore District) occur a series of eight cave-temples. Interposed between them, along with two sculptures of dancing Śiva and Hari-Hara, are small niches or

ROCK-CUT MONUMENTS

memorial-shrines containing *līngas*, which from their dedicatory or other inscriptions seem to range from the seventh to ninth centuries. The cave-temples would fall into two groups, the first four starting from the northern end forming one and the remaining four constituting the other. The first four are simple shrine-cells cut into the soft schist rock without a *maṇḍapa* in front; they also lack the elaborately decorated *kapota* and *kūḍus*. The second group consists each of an outer *maṇḍapa* with two pillars and two pilasters on the façade and a shrine-cell cut behind. On the top of the façade runs a flexed *kapota* or cornice decorated by *kūḍu*-ornaments of the Māmalla style (below, p. 144). The pillars are square in section and of Chālukyan pattern as in the examples on the banks of the Krishna. In some caves they have lion-caryatids on the top and are lion-based. The corbels are smoothly curved and often decorated by roll-ornament (*tarāṅga*), as in Pallava examples. Another similarity would be the squatting lion-bases of the pillars which have the full capital-components of the order as in the Māmalla style (below, p. 144). The shrine-entrances are plain openings like those in Pallava examples and without the characteristic Chālukyan overdoor. But the *dvāra-pālas*, cut in relief on either side of the shrine-entrance, are typically Chālukyan derived through the eastern line. These mixed characters and other features, as also the presence of relief-sculpture of Brahmā and Viṣṇu in the *maṇḍapa*, along with the provision for the installation of a *līṅga* in the shrine and the occurrence of other sculptures like Gaṇeśa, Chaṇḍikeśvara and rock-cut *nandī* on the floor of the open cutting in front, would indicate that these excavations would belong to the eighth and

ninth centuries. The crude simple ones of the first group seem to be later than the more elaborate ones of the second group.

D. THE TAMIL LAND

(i) *The Pallava cave-temples*

I. THE MAHENDRA STYLE.—At about the same time when the Chālukya Maṅgaḷeśa excavated his shrine for Viṣṇu in the soft sandstone cliffs of Badami (above p. 132), his political rival in the Tamil land, Mahendravarman I of the Pallava dynasty (*circa* 580—630), excavated into the hard granite hill at Mandagappattu (South Arcot District) his first cave-temple dedicated to the Brāhmaṇical trinity—Brahmā, Śiva and Viṣṇu. In his inscription there he states that he created the abode for the three gods without employing such conventional materials as brick, timber, metal and mortar, and in doing so he declares himself to be an out of the ordinary type. As such this would be the first temple in stone in the whole of the the southern country. Mahendra's triumph was not only in this but also in the success in tackling the hard and almost intractable granite—a feat which had been not known for nearly a thousand years after Aśoka and his grandson Daśaratha (above, p. 110). The Mandagappattu cave-temple was followed by the excavations at Pallavaram and Vallam (Chingleput District), at Mamandur, Mahendravadi and Siyamangalam (North Arcot District), Dalavanur (South Arcot District) and Thiruchchirappalli. At Mahabalipuram (District Chingleput) the cave-temple to the north of the Koṇeri-maṇḍapam and the one higher up on the same side of the hill called Pulipudar-maṇḍapam are unfinished specimens of Māmalla's time, but

ROCK-CUT MONUMENTS

along with a few others show the beginnings of excavations and are thus instructive about the progress and technique of excavation into hard rock.

Like the Mandagappattu one, those at Pallavaram and Mamandur (second cave), as well as those at Kuranganilmuttam and Vilappakkam (North Arcot District), which, though uninscribed, can be attributed to Mahendra himself, were dedicated to more than one deity. The cave-temples at Vallam, Siyamangalam, Dalayanur and Thiruchchirappalli were dedicated to Śiva, while those at Mahendravadi and perhaps Mamandur (first cave) were dedicated to Viṣṇu.

These cave-temples essentially consist of a rectangular *maṇḍapa* with a row of massive and short pillars and pilasters in the façade, usually four in all. Sometimes the façade is longer with four, six or even eight equally-spaced pillars, which are square in section, with the middle third chamfered into an octagonal section, and carry massive corbels with bevelled or curved ends, sometimes with the faces carved as a series of rolls (*taraṅga*). A well-formed cornice or *kapota*, with or without *kuḍu*-ornaments, is absent as a rule. The *maṇḍapa* is often divided into proximal and distal sections, the *mukha-maṇḍapa* and *ardha-maṇḍapa*, by an inner longitudinal row of pillars and pilasters corresponding to the façade-row, and of the same type; where there are no inner pillars, the differentiation is indicated by differing floor-levels or ceiling-heights. The shrine-cell or-cells are usually cut into the rear wall of the *maṇḍapa* often into one of the lateral walls. A flight of about three rock-cut steps from the floor of the *maṇḍapa* leads to the simple shrine-entrance. The shrine-doors are generally guarded by pairs of *dvāra-pālas*, while in

BRĀHMANICAL AND JAINA CAVES

the earliest cave-temple, where the shrines for the trinity are but deep niches, the *dvāra-pālas* flank the *maṇḍapa*-façade. The cells are cubical and are empty with plain walls and ceiling, there being no rock-cut *liṅga* or image on the floor, not even a relief on the rear wall.

The cave-temples of the Mahendra style (pl. XXXVIII B) continued to be excavated between 630 and 700 by Mahendra's son and successors, whose products, marking the second phase, are the cave-temples at Tirukkalukkunram, the Koṭikāl-maṇḍapam and the Dharmarāja-maṇḍapam, both at Mahabalipuram, the Narasimha cave-temple at Singapperumalkovil (Chingleput District), the Raṅganātha cave-temple at Singavaram (South Arcot District) and two unfinished cave-temples at Mamandur (Caves 3 and 4). Atiraṇaṇḍa's cave-temple at Saluvankuppam near Mahabalipuram, of the time Rājasimha (700-30), would mark the end of the second phase.

II. THE MĀMALLA STYLE.—Mahendra's worthy son and successor Narasimhavarman I Māmalla (630-68), besides excavating a few Mahendra style cave-temples, initiated a new ornate series of cut-in cave-temples, cut-out shrines (*vimānas*), popularly called *rathas* (pl. XLII), and some open-air bas-relief compositions of considerable size and fine quality, e.g. Arjuna's penance. The cave-temples of this style initiated by him were mostly completed in stages by his immediate successors, who also created a few monuments in the same style, all confined to Mahabalipuram. The most outstanding advance noted in these cave-temples is a fuller representation of the frontal and interior aspects of a contemporary structural *maṇḍapa*. While in the Mahendra style the *maṇḍapa*-façade stops short of

ROCK-CUT MONUMENTS

the *prastara* or entablature represented by the beam and a crude *kapota*, in the Māmalla style it is fully furnished with a flexed *kapota* decorated by *kūḍus* and a string of miniature shrines above it, mostly composed of *śālās* with a rectangular plan and barrel-vaulted roof, constituting the *hāra* with interconnecting lengths of cloisters. The pillars resemble the conventional patterns of their wooden prototypes, having all the capital-components of the order and are taller and more slender than those of the Mahendra style. Their bases are often shaped into squatting lions or leonine *vyālas*. Their *maṇḍapa* is often divided into front and rear halls, the *mukha-maṇḍapa* and *ardha-maṇḍapa*, by an inner row of pillars. The shrine-fronts are often more projected into the *maṇḍapa*, and their entrances are flanked by pilasters with *dvāra-pāla* niches on either side. As in the more developed Mahendra style cave-temples, there is a well-formed *prastara* above the shrine-entrances with flexed *kapota* and *kūḍu*. The shrine-cells are at the rear of the rectangular *maṇḍapas*, one or three or five in number.

These cave-temples also show a marked advance in plastic decorations in the form of bold sculptures of gods and goddesses and large panel-compositions depicting legends. Some of those excavated or completed by Parameśvaravarman (670-700) contain bas-relief panels of Somāskanda (Śiva-Umā and Skanda) on the rear shrine-wall.

The Konerī-maṇḍapam marks the transition from the Mahendra to Māmalla styles in having a façade-row of typical square but taller pillars of the Mahendra style and an inner row of the Māmalla style ones without lion-bases, the latter, circular and with capitals, dividing the *maṇḍapa* into front and rear sections. Over the façade is a well-formed

kapota with *kūḍus*, mounted by the usual *hāra* of miniature shrines. There are five shrines, three with projected fronts and two in the intervening recesses—all empty. The Mahishamardini cave-temple has on its façade a row of circular but fluted pillars with capitals, without lion-or *vyāla*-bases, while the inner *maṇḍapa*, projected in front of the middle of the three shrines, has lion- or *vyāla*-based pillars and pilasters. The central shrine contains a Somāskanda panel on the back wall, while the two flanking shrines are empty. The Varāha-maṇḍapam (pl. XLI) has a façade-row of *vyāla*-based pillars and pilasters and a single shrine-cell inside. The Rāmānuja-maṇḍapam had also a similar row on the façade and three shrine-cells, the central one alone bearing a Somāskanda panel (now demolished). It is also unique in that it had a *dvāra-pāla* at either end of the façade in addition to the usual ones flanking the shrine-front or fronts. The Ādivarāha cave-temple has on its façade-row a set of *vyāla*-pillars and pilasters, while those of the inner row are devoid of such bases. Its single shrine-cell contains a stucco image of Viṣṇu as Varāha. The Pañcha-Pāṇḍava cave-temple, which is unfinished, has a more elaborate façade with the typical pillars, which have in addition rearing lions springing from the abacus of the capital and butting against the *kapota*. It is also unique in that it shows an almost complete attempt to cut out the square central shrine by a surrounding passage forming a circumambulatory.

(ii) *The Pāṇḍya cave-temples*

Farther south, the Pāṇḍya contemporaries of the Pallavas started rock-architecture slightly later, by about the beginning of the eighth century, and

ROCK-CUT MONUMENTS

continued it in the two succeeding centuries till they were overthrown, as were the Pallavas, by the rising Chōlas of Thanjavur. Their products are to be found all over in Madurai, Ramanathapuram, Tirunelveli, Kanyakumari, Trivandrum and Quilon Districts and the southern part of Thiruchchirappalli District. They are far more in number than the Pallava examples but are essentially similar to them on plan and in design. In addition they show certain characteristic features of their own, combining features peculiar to the Chālukyan examples, particularly regarding their sculptural content and iconography. A rock-cut *līṅga* in the sanctum and often *nandi* in the *maṇḍapa* of Śiva cave-temples, the sculpture of the main deity in Viṣṇu shrines, as at Tiruttangal (Ramanathapuram District) and Tirupparankunram and Anaimalai (Madurai District), the early representations of Gaṇeśa and *sapta-mātrikās* ('seven mothers') in close association with such cave-temples and other sculptures in the *maṇḍapa* are some of noteworthy features. In some cases, as at Piranmalai (Ramanathapuram District), there is a Śiva-Pārvati relief on the hind wall of the shrine in place of the corresponding Somāskanda panel in the later series of Pallava examples. In one instance, the Śiva shrine in the Tirupparankunram cave-temple, there is a Somāskanda panel in addition to a rock-cut *līṅga* on the floor of the cell. Like the Mahendra style cave-temples, they lack a well-defined *kapota* over the façade; the pillars are also of the Mahendra pattern, the corbels mostly with a plain bevel at their ends and occasionally with the *tarāṅga*-moulding. The pillars at Kudumiyamali (Thiruchchirappalli District) are unusual in that they have moulded capital-components, such as the *kalaśa* and *kumbha*,

BRAHMANICAL AND JAINA CAVES

as in the Chālukyan and Māmallā cave-temples. Some of the excavations are only shrine-cells.

The Śiva cave-temple in Malaiyadikurichi (Tirunelveli District), the Narasimha cave-temple at Anaimalai and the Subrahmanya cave-temple at Tirupparankunram have foundation-inscriptions: the one at Malaiyadikurichi is assignable to the second half of the seventh century and is thus perhaps the earliest cave-temple; the other two are dated 770 and 773. The Sittannavasal (Thiruchchirappalli District) cave-temple, famous for its paintings, is an example of a Jaina cave-temple of the Pāṇḍyas, as revealed by its inscription of the Pāṇḍya king of the first half of the eighth century, stating that it was renovated and re-embellished. As such the original cave-temple may have been a century or so earlier. These dated caves afford the standard for a comparative study and relative chronology of the other Pāṇḍya specimens.

(iii) *The Muttaraiyar cave-temples*

The Muttaraiyar chieftains, who ruled the region on either bank of the Kaveri between the Pallava and Pāṇḍya kingdoms, owing allegiance to them alternatively, have left a few important cave-temples in the area, as at Tiruvellarai, Narttamalai, Kunnandarkovil, Puvalaikudi and other places, all in Thiruchchirappalli District. These cave-temples are of the type of *mandapas* with simple cells and are much akin to the Pāṇḍya cave-temples in the area.

5. THE CUT-OUT MONOLITHIC TEMPLES

A. THE PALLAVA MONUMENTS

The outstanding contribution to rock-architecture of Pallava Narasimhavarman Māmallā is the

ROCK-CUT MONUMENTS

cut-out monolithic shrines or *vimānas*, popularly called *rathas* (above, p. 143). They are in fact large sculptures of architectural models carved out of entire boulders of the rather intractable granitic gneiss of Mahabalipuram. The germ of the idea lies in the carved-out *stūpas* inside the rock-cut *chaitya*-halls of western India, which was elaborated by the Buddhists in the large *stūpa*-forms at Sankaram (above, p. 121). An early, if imperfect, *vimāna*-form is found in the Tāwa cave of Udaigiri (above, p. 131). The early Pallava examples occur at Mahabalipuram, where the *rathas* are nine in number, to which should be added the Trimūrti cave-temple, a representation of three contiguous shrine-fronts.

As entirely cut-out models, these monoliths show not only the entire external aspect of a *vimāna* with its *ardha-mandapa* but also, to a large extent, the interior aspects. They were all carved out from top to bottom. But, as according to traditional ritual, the installation of the *stūpi* or finial should coincide with the consecration of the temple after its completion, the work on these monoliths started from the member next below, viz. the *śikhara*, and a separately-carved *stūpi* was inserted in position later on, close to the *vimāna* near its base. The carving on such monoliths seems to have continued for at least two generations after Māmalla, i.e. till about 700, when perhaps sculptures of the principal deities in some of the shrines, as the Draupadī-ratha and top storey of the Dharmarāja-ratha, were carved in relief.

Of the five *rathas* at the southern end of Mahabalipuram, four, viz. the Draupadī-, Arjuna-, Bhima- and Dharmarāja-rathas, are cut out of a sloping whale-back hillock, extending north-south, which

MONOLITHIC TEMPLES

explains their varying heights. Architecturally all the five of the group have their counterparts among the other *rathas* of Mahabalipuram, such as the Gaṇeśa-ratha in the midst of the village, which is carved out of a single boulder on the main hill, and the two Piḍāri-rathas and the Valaiyaṅkuṭṭai-ratha, which are cut out of free-standing boulders on the western side of the same hill.

The Draupadi-ratha illustrates a simple hut-type (*kūṭāgāra*), with the domical roof terminating in a single finial and with only four of the six parts of an *ekatala-vimāna*, the *prastara* and the *grīvā* being eliminated. It is an example of the *kūṭa*-type with a square plan from the base to the *śikhara*. A double-storeyed *vimāna*, square from the base to the *śikhara*, with *grīvā* below the *śikhara* and *prastara* of each storey, carrying a *hāra* or string of miniature shrines—*kūṭas* and *śālās*—is illustrated in the incomplete Valaiyaṅkuṭṭai-ratha. The northern of the two Piḍāri-rathas is also of the same class but with the difference that there is no *hāra* over the second storey—an advanced feature—making it out as the latest of the series, anticipating the later *vimānas* of after 700.

The southern Piḍāri-ratha and the Arjuna-ratha are double-storeyed, square in section from the base upwards and with *hāras* over both the storeys, but with the *grīvā* and *śikhara* octagonal in section. The Dharmarāja-ratha is three-storeyed, square below and with octagonal *grīvā* and *śikhara*, but with all the three storeys functional and intended to contain shrine-chambers, as against the non-functional but symbolic upper storeys in the other and later examples.

The Bhīma and Gaṇeśa-rathas have both oblong *vimānas* of the *koshṭha* or *śālā* type with wagon-top

ROCK-CUT MONUMENTS

roofs, carrying a row of finials along the top ridge, as opposed to the *kūṭa* or convergent *śikhara* with single finial in the others. The Bhīma-ratha is single-storeyed and the Gaṇeśa-ratha double-storeyed.

The apsidal form is represented by the Nakula-Sahadeva-ratha; since in its posterior aspect the form resembles the hind view of a standing elephant, it is called *gaja-prishtha*.

While the *kūṭas* and *śālās* are found in the *hāras* of all these *rathas*, the *nīḍa* or *pañjara* with an apsidal plan makes its appearance as the third element in the projected porch of the first storey of the Dharmarāja-ratha and again in the front of the first storey of the Nakula-Sahadeva-ratha, thus indicating their comparatively late date. The *hāras* enclose between themselves and the storey inside an ambulatory passage in the Dharmarāja-ratha, where the storeys are functional, unlike the later structures where the upper storeys are only symbolic.

The Arjuna- and Dharmarāja-rathas are noted for the fine sculptures decorating niches on their walls. The Draupadī-ratha contains a Durgā relief in its shrine and the Dharmarāja-ratha a Somāskanda relief inside the third storey. In others, with either complete or incomplete shrines, there is no deity. The absence of any water-outlet, usual in later temples, for leading out the water from the sanctum, is also significant. The few pillars and many pilasters are complete with capitals with *taraṅga*-corbels. *Vyāla*-based pillars or pilasters are found on the *ardha-maṇḍapa* façades of the Arjuna-, Bhīma-, Dharmarāja-, Nakula-Sahadeva- and Gaṇeśa-rathas and in unfinished forms in the Piḍāri and Valaiyaṅkuttai-rathas. The Nakula-Sahadeva-ratha has in addition a pair of elephant-based pilasters and the Gaṇeśa-ratha pilasters with a *vyāla*-like form with a beaked

MONOLITHIC TEMPLES

face. *Toraṇas* of the *makara*-type—festoons issuing out of the gaping mouths of *makaras* carried on tops of two-columns—spanning the entrances or enclosing niches on walls are seen in the Draupadi-, Valiyaṅkuṭṭai- and the northern Piḍāri-rathas.

B. THE RĀSHṬRAKŪṬA MONUMENTS

In the Deccan, the Rāshṭrakūṭas soon created, under Kṛishṇa (757-83), the largest monolithic temple, the Kailāsa, at Ellora (pl. XLIII), its name being due to a famous sculpture that it bears—Rāvaṇa shaking the mount Kailāsa. By entrenching vertically into the hill-side on all sides of a central rectangle, about 60 m. long and 30 m. wide, a central mass of rock, about 30 m. high, was isolated to carve the components of a temple-complex, with a *vimāna*, axial *maṇḍapas* including a *nandi-maṇḍapa*, and a peripheral group of shrines for minor deities, in addition to two free-standing pillars in the forecourt. The floor-level of the trench all round formed a circumambulatory with a forecourt in its front, the whole measuring 90 × 60 m. The thick mass left in front of the forecourt is shaped into the front enclosure-wall, with a double-storeyed *gopura*-entrance having a *śālā-śikhara* above and a passage cut through its lower part for access to the forecourt and circumambulatory round the main edifice. The upper storey is connected with the floor of the *nandi-maṇḍapa* by a rock-cut bridge. The latter itself is conceived as a double-storeyed structure, only the upper storey, with the *nandi* being functional. The main structure beyond consists essentially of the *vimāna* containing the sanctum, with an *antarāla* or *ardha-maṇḍapa* and a closed *mahā-maṇḍapa*. The whole axial series is raised over the high ornate plinth with its top supported, as it were,

ROCK-CUT MONUMENTS

over a frieze of boldly-sculptured elephants, lions and mythological animals. The *mahā-maṇḍapa* is cantoned at its two rear corners by double-storeyed *vimānas* of the *kūṭa*-type, and over the three entrances—on the middle of the south, west and north sides—are the superstructures of *śālā-vimānas* simulating *gopura*-entrances. The top of the *maṇḍapa*-roof has a large multi-petalled lotus with a finial in the centre.

Behind the *mahā-maṇḍapa* stands the *vimāna* proper, its moulded base occupying the centres of the plinth, with five sub-shrines over its edge. The sub-shrines on the three cardinal sides are double-storeyed *śālā-vimānas*, while the two at the rear corners are three-storeyed *kūṭa-vimānas*. These five together with the two dummy double-storeyed *kūṭa-vimānas* at the hind corners of the *mahā-maṇḍapa* and the *nandi*-shrine in front, complete the full complement of the *ashta-parivāras* or eight sub-shrines.

The main *vimāna* is square and four-storeyed; the lowest storey over the sanctum is projected forward over the roof of the *ardha-maṇḍapa* in the form of a gable-projection with arched front. The topmost storey has four *nandis* placed at the four corners. The *grīvā* and *śikhara* are octagonal; the *stūpi*, now missing, was not a part of the monolith. The scarps formed by the cutting of the rock for the courtyard have later cut-in caves and galleries.

Perhaps of about the same period as the Kailāsa, or slightly earlier, is the *nandi-maṇḍapa* measuring 9.5 m. × 3.3 m., in the forecourt of Cave 15.

A much later Jaina version of the Kailāsa, a monolith on a smaller scale, is the Chhoṭā-Kailāsa standing in the forecourt of Cave 33. It is a three-storeyed *vimāna*, square on plan throughout, likewise

MONOLITHIC TEMPLES

terminating in an octagonal *grīvā* and *śikhara*. The front wall of the court has a monolithic *gopura* as the Kailāsa, and between it and the *vimāna* is a monolithic column. The *stūpt*, which must have been detached, is not in position.

C. THE PĀṆDYA MONUMENTS

As against the Pallava and Rāshtrakūṭa creations, the solitary contribution of the contemporary Pāṇdyas is the monolithic *vimāna* called Vettuvāṅkovil (pl. XLVI A) at Kalugumalai, (Tirunelveli District), of the eighth or early ninth century. It is cut out of a block on the hill-side produced by entrenching all round, as the Ellora examples, and not by free cutting of standing rocks, as the Pallava ones. The maximum depth of cutting from above is 10·5 m., the length 25 m. and width 13 m. Both the double-storeyed *vimāna*, 8·5 m. square at base, and *ardha-maṇḍapa*, 4 m. broad on its façade, are incomplete, but the finished upper parts reveal a high degree of workmanship and contain some outstanding sculptures. The *grīvā* and *śikhara* are octagonal. The four *nandis* round the base of the *grīvā* indicate the date and dedication of the temple to Śiva as also the sculptures of Dakṣiṇā-mūrti, Viṣṇu, Brahmā and Śiva on the faces of the *grīvā*.

D. MONUMENTS IN NORTH INDIA

In the north also monolithic temples were sometimes cut out. At Dhamnar (District Mandasor), in the compact laterite hills, a monolithic Vaiṣṇavite *vimāna* with a *maṇḍapa* in front (pl. XLVI B), surrounded by seven similar monolithic sub-shrines, was created in the eighth-ninth century. The entrance-pit, approached from the face of the rock

ROCK-CUT MONUMENTS

by a 90-m. long crooked passage, measures 31·5 m. \times 20·4 m., with the central *vimāna* 14·6 m. long and 10 m. wide. The *maṇḍapa* has a projected porch in front, covered by a *śālā*-roof, the front end showing the complex of *nāsikās* and coalesced *nāsikās*—the *udgama* of the northern texts. Identical motifs surmount the projected bays on the two lateral sides of the *maṇḍapa*. The four corners are cantoned by square *vimāna*-representations, carrying *śikhara*s and surmounting *āmalakas* of the northern type. The roof is stepped up. The main *vimāna* is *tri-ratha*, with a *śikhara* composed of *udgama*-motifs and a large flat *āmalaka* on the top. The sub-shrines have *śikhara*s which resemble a series of stepped up *kapotas*, with *udgama*-projection in the centre of each side.

The northernmost example of a cut-out monolithic temple-complex, again of the northern style, is found at Masrur (pl. XLVII) in Kangra District, locally called *Ṭhākurvārā*, of the ninth century. Here the tallest middle section, 50 m. long and 32 m. wide, of a sandstone outcrop on the crest of the hill has been cut out into a series of temples, unique in the Himalayan region. Unlike the Dhamnar specimen and the Kāilasa and the Veṭṭuvāṅkovil (above pp. 151-53), it is not entrenched in a pit but is boldly carved out of free-standing rock, like the Pallava examples. It is a complex of shrines with the principal shrine at the centre. Almost in a line with this on either side are cut two subsidiary shrines of decreasing sizes, the smaller and more distant one occupying the outer angle. A similar arrangement of these secondary shrines appears to have formed the back of the monument, so that the principal shrine stands amidst eight subsidiary shrines—the *aṣṭa-parivāras*—the entrances of all of them being on one

MONOLITHIC TEMPLES

level. Above the cella of the main shrine and level with the now-lost roof of the *maṇḍapa*, the rock is cut as a flat roof broken only by the main *śikhara* and those which overtop the subsidiary ones. The architectural incongruity that would result in the central *śikhara* much overtopping the rest is obviated by the addition of two lateral *vimānas* of intermediate size at the roof-level, each complete with a cella and a *śikhara*. The entry to the main shrine was through a small portico and a larger *maṇḍapa*, of which little remains now. On either side of the *maṇḍapa* were cut two stair-cases leading to the level of the flat roof, with a shrine superstructure masking the entrances. Flanking the portico were two monolithic shrines, each with a false door—opening, as it were, into the portico.

In front of this complex and in a line with the portico or *mukha-maṇḍapa*, there are on either side two *chaturmukha-vimānas*, with square sanctums and sixteen-sided polygonal *śikharas*, bearing rising *udgama*-patterns on its facets. This unique monument is datable to the ninth century.

Perhaps the latest of the series but nevertheless unique, in that it has been carved out of hard granite and is of rather unusual shape, is the monolithic temple at Colgong (pl. XLVIII) in Bhagalpur District, carved out of a solitary granite-boulder near the summit of a rocky island in the Ganga. It is roughly square on plan, being 3·6 m. × 3·3 m., and stands 6 m. high. Its basement-mouldings are roughly marked at a height of 2·1 m. from the ground-level, over which rises the *vimāna* of the *śālā*-type, without an intervening *prastara* or *grīvā*. The east and west end-walls of the *śikhara* are relieved in the fashion of the Orissan *rathas*. The sanctum-cell is excavated into the south face, its entrance preceded by a

ROCK-CUT MONUMENTS

slightly-projected porch. The temple is not fully finished, only its form being roughly chiselled out.

K. R. SRINIVASAN



Fig. 3

VI. NORTHERN TEMPLES¹

CONTENTS

	PAGE
1. Early temples of north India	157
2. Early temples in the Deccan in north Indian style	161
3. Early medieval temples of north and central India	163
4. Medieval temples of Rajasthan	169
5. Medieval temples of central India	172
6. Temples of Gujarat	178
7. Temples of Orissa	184
8. Later temples of Bengal	189

1. EARLY TEMPLES OF NORTH INDIA

THE TEMPLE IS THE MOST SIGNIFICANT AND CHARACTERISTIC product of Indian architecture and is reckoned among the oldest institutions of India. Despite its antiquity and the copious literary and traditional references to it, the connected history of the north Indian temple starts from the Gupta age (fourth-sixth centuries), which was marked by an unprecedented intellectual ferment and creative vitality in all spheres of life and thought including art and letters. With some known exceptions temples had

¹For places mentioned in this chapter see map, fig 4, p 190 For rock-cut temples, see chapter V.

NORTHERN TEMPLES

hitherto been made of perishable material like timber. The potentiality of dressed stone was for the first time appreciated during the Gupta period, which ushered in an age of temple-construction, characterized by a reasoned application of structural principles. Under the impact of the cult of *bhakti* (worship of the personal god), which had permeated all sections of society, temples sprang up in large numbers for the worship of favourite deities like Vāsudeva, Saṅkarṣaṇa-Balarāma, Varāha, Narsimha, Śiva, Skanda and Buddha, of which not many have now survived.

A firm foundation of temple-architecture was laid in this age which witnessed the logical emergence of the basic elements of the Indian temple, generally comprising a square sanctum for housing the deity and a small pillared porch for sheltering the worshipper. The evolved examples of this age also show a covered procession-passageway for circumambulation which forms a part of the temple-ritual. The earlier temples are distinguished by a flat slab-roof, usually monolithic, while the later ones develop a rudimentary *śikhara* (spire). But all of them share some common characteristics, such as a modest size, elaborate ornamentation of the door-frame and pillars in contrast to the plain design of the rest of the shrine, division of the door-jambs into *śākhās* (vertical bands) decorated with scrolls, rosettes and other motifs, treatment of the door-lintel as an extended overdoor and the emergence of the pillar into a definite order comprising square, octagonal and sixteen-sided sections with an ornate capital. The evolution of the style is traceable through a progressive development of the plan and of the ornamentation on the pillars and the doorway, the latter introducing decorative motifs like playful *gaṇas* (dwarfs),

EARLY TEMPLES

mithunas (couples), flying *vidyādhara*s (semi-divine beings), door-keepers, and a figure-relief in the middle of the lintel (*lalāṭa-bimba*) representing a significant aspect or associate of the enshrined deity, besides the river-goddesses.

The Gupta temple at Sanchi (pl. XLIX), dating from *circa* fifth century, is the oldest classical example of the style with modest dimensions and restrained decoration. The temples at Tigawa (District Jabalpur) and Eran (District Sagar) have more ornate doorways and pillars, while the Śiva temple at Bhumara and the Pārvati temple at Nachna (both in District Panna) add round the sanctum a covered circumambulatory lighted by trellises. The Nachna temple is also notable for its flat-roofed cell as an upper storey above the sanctum. The later Gupta temples, distinguished by a rudimentary *śikhara* over the sanctum, are represented by the Daśavatāra temple at Deogarh (District Jhansi) and the brick-built temple (pl. L) at Bhitargaon (District Kanpur). The former is a *pañchāyatana* (a temple with four corner-shrines) and the latter a stupendous pyramidal edifice of diminishing tiers extensively embellished with terracotta figures in niches depicting secular and religious themes, gods and demi-gods, human and animal figures and fabulous birds and beasts of wide appeal and homely charm. The platform of the Deogarh temple was decorated with friezes representing scenes from the stories of Rāma and Kṛishṇa, while the three plain walls of its *tri-ratha* sanctum are relieved with superb figure-compositions within the framework of graceful pilasters and architraves, depicting Viṣṇu as Śeṣhaśāyi, *Gajendra-moksha* and the penance of Nara and Nārāyaṇa. These are among the noblest specimens of the Gupta plastic art,

NORTHERN TEMPLES

characterized by sensitive modelling, gliding outline, spiritual serenity and aristocratic detachment.

The original brick-built Mahābodhi temple at Bodh-Gaya partially resembles the Bhitargaon one in its essential features of plan and design including the vaulted ceilings of the compartments. But its sanctum carries a lofty (about 55 m. high) *pañcha-ratha śikhara* of a straight-edged pyramidal design, demarcated into seven storeys by *bhūmi-āmalakas* (*āmalakas* occurring at the corners of the *śikhara* to denote storeys).

The most developed among the temples of the group is the brick-built Lakshmaṇa temple at Sirpur (District Raipur). Belonging roughly to the beginning of the seventh century, it consists of a square *pañcha-ratha* sanctum roofed by a slightly curvilinear massive *śikhara*, a constricted vestibule and a pillared *mandapa*, the whole resting on a high platform approached by two lateral flights of steps. Its *śikhara*, divided into four storeys by ponderous *bhūmi-āmalakas*, is embellished with *chaitya*-windows.

Among the aberrant types of temples may be mentioned the flat-roofed stone temple at Mukandwara (District Kota), the octagonal stone temple of Muṇdeśvari at Ramgarh (District Shahabad), and the circular brick-temple known as Maniyār-Maṭh at Rajgir (District Patna), the last decorated with stucco figures of Brāhmaṇical deities including a *nāgi*, known for its sensitive modelling.

Temple 3 at Nālandā (District Patna) is a unique brick-structure of seven successive phases, of which the fifth one, dating from *circa* sixth century, had a lofty sanctum approached by a grand flight of steps. The façades of its enclosure-wall, with four *stūpa*-like corner-towers, are adorned with niches containing fine Buddhist stucco images.

EARLY TEMPLES

Terraced brick-temples of the Gupta and post-Gupta periods, decorated with terracotta sculptures, are also known. These are solid structures of diminishing tiers with the shrine placed on the uppermost tier, which is approached by a flight of steps. An early representative specimen is the excavated temple at Pawaya (District Gwalior), showing three terraces, of which the upper two are decorated with a row of ornate pilasters surmounted by a frieze of *chaitya*-arches.

The post-Gupta period appears to have been an age of experimentation in north India. During the seventh-eighth centuries various temple-forms were tried, and we find a fair number with a flat roof, some with a straight pyramidal spire, a few with a roof of receding horizontal tiers and still others with an undeveloped curvilinear *śikhara*. Small flat-roofed shrines comprising a square *tri-ratha* sanctum and an unpretentious portico with two pillars, albeit more ornate than in the earlier ones, are found in a considerable number in central India, continuing the Gupta traditions.

2. EARLY TEMPLES IN THE DECCAN IN NORTH INDIAN STYLE

While these temples were being built in central and north India, a brisk building-activity in stone was being pursued in a part of the Deccan with principal centres at the early Chālukyan sites of Aihole, Badami, Mahakuteshwar and Patadkal (all in District Bijapur) and Alampur (District Mahbubnagar). The movement lasted from the sixth to the eighth century and produced significant temple-forms which had a considerable impact on the development of the early northern and southern temple-styles. The

NORTHERN TEMPLES

Lāḍ-Khān temple at Aihole is the earliest in the region and, though essentially Gupta in plan, is notable for its cloistered interior showing pillars with ponderous bracket-capitals, timber-like construction of walls with screens attached to posts and treatment of roof-slabs on the principle of tiles. Four other temples of Aihole dating from sixth-seventh centuries are of importance for the development of the northern style. The Durgā temple is a peripteral structure with an apsidal sanctum, surmounted by a *tri-ratha* northern *śikhara*, a pillared *maṇḍapa* with a flat roof of two tiers, enclosed by a pillared verandah, and a portico approached by two lateral flights of steps, the whole raised on a platform. The Huchchimalli-guḍi temple consists of a square sanctum with a *tri-ratha* northern *śikhara*, a vestibule marking its earliest occurrence, a pillared hall and a porch. The Huchchappayya-guḍi temple is a *nirandhāra* (one without ambulatory around the shrine) version of the foregoing, while Temple 24 is the only one of the northern style at Aihole to preserve its *śikhara* complete with its crowning elements.

The Saṅgameśvara temple at Mahakuteshwar is simpler and comprises a sanctum and portico, the former displaying a sculptured niche in each *bhadra* (central projection) and carrying a stumpy *tri-ratha śikhara*.

The temples at Aihole, Patadkal and Mahakuteshwar are dealt with in detail in chapter VII.

Among the northern style temples at Patadkal, those of the Kaḍa-Siddheśvara and Jambūliṅga are the simplest, comprising only a sanctum and *maṇḍapa*, the former roofed by a squat *tri-ratha śikhara*. The Kāśī-Viśvanātha temple is similar on plan but has a *pañcha-ratha śikhara*. The Galaganātha is a *sāndhāra* (one with ambulatory around the shrine)

TEMPLES IN THE DECCAN

temple with a conspicuous projection on the three sides of the sanctum-ambulatory and is roofed by a *tri-ratha śikhara* of taller proportions, anticipating the Alampur temples in these respects. The temple of Pāpanātha is a long low structure, comprising a portico, *maṇḍapa*, vestibule and sanctum, the last surmounted by a stunted northern *śikhara* which is too small in proportion to the length of the structure, while the vestibule is disproportionately large.

More important than these is the group of temples at Alampur, which has nine temples of the northern order belonging to *circa* eighth century. These are *sāndhāra* temples (pl. LI), each comprising a sanctum with a well-proportioned *tri-ratha śikhara*, vestibule, a pillared *maṇḍapa* carrying a flat roof of two tiers and a portico. The sanctum-ambulatory shows projecting niche-shrines on the three sides, while the *jaṅghā* (wall-portion) is decorated with sculptured niches and latticed windows of a more lyrical design than on the Pāpanātha. Like the early medieval temples of north India, their *maṇḍapa*-pillars carry ornate brackets usually embellished with palmette-like foliage, while their doorways are of the overdoor design and the *lalāṭa-bimba* depicts Garuḍa holding the tail-ends of adoring *nāgas* who form a canopy over the heads of Gaṅgā and Yamunā appearing on the jambs. Thus, in respect of plan and design and many typical architectural and decorative motifs the Alampur temples resemble the early medieval temples of north India.

3. EARLY MEDIEVAL TEMPLES OF NORTH AND CENTRAL INDIA

By the close of the eighth century the common denominator of the north Indian temple comprised a

NORTHERN TEMPLES

cruciform plan, continuation of the main lineaments of the plan on the elevation and a curvilinear *śikhara*, the last being the most striking feature and a cognizance of the northern style. Temples with these characteristics were built in hundreds throughout north India showing regional variations which became established by the ninth-tenth centuries and attained full development during the eleventh. From the ninth century onwards the evolution of the northern temple had largely a regional pattern which was often moulded by powerful dynasties.

The temples of north India, including the Himalayan regions, of the Pratihāra age (*circa* 700-900) are characterized by a low basement, a simple stunted *śikhara* and a *jaṅghā* decorated with a single band of sculptures crowned by tall pediments of *chaitya*-arches. The temples of central India of the same period have an unpretentious plan comprising in the beginning only the sanctum and a vestibule-like projection, sometimes preceded by an entrance-porch.

The groups of temples at Naresar (District Gwalior) and Batesara (District Morena), forming the earliest examples of the central Indian style and assignable to the early eighth century, show a square sanctum crowned by a small *tri-ratha śikhara* and a vestibule-like projection with a simple gabled roof. Their doorway is of the overdoor-design usually with three *śākhās* including a *nāga-śākhā*, and the *jaṅghā* is plain but for sculptured niches on the central projections depicting deities like Gaṇeśa, Kārttikeya, Lakulīśa, Sūrya and Pārvati.

The temple at Jagatsukh (District Kulu) differs from the foregoing only in adding a porch resting on two pillars (pl. LII).

The Śiva temples at Amrol (District Gwalior) and Mahua (District Shivrpurī) have the same plan

MEDIEVAL TEMPLES

as the Naresar ones but are slightly more ornate. They are followed by a small shrine at Terahi (District Shivpuri), which shows a more developed plan comprising a *pañcha-ratha* sanctum, preceded by a porch that is supported on two pillars. The corner projections of the *jaṅghā* show the eight *dik-pālas* (guardians of the quarters), which henceforth appear on almost all temples. Slightly later in date is the Teli-kā-Mandir at Gwalior (pl. LIII) which, though exceptional in design and composition, is the grandest temple of the contemporary style, perhaps built by a powerful Pratihāra king named Mihira-Bhoja (circa 836-88). It has an oblong sanctum, surmounted by a lofty (28 m. high) wagon-vault roof, and is entered through an elaborate doorway of five *śākhās* which are carved in the lower parts with elegant figures or river-goddesses flanked by attendants and Śaiva door-keepers, indicating the Śaiva dedication of the temple. The façades show restrained decorations, which include a recessed band of carvings representing gods, goddesses and *dik-pālas* surmounted by rich scrolls on the upper part of the basement. The principal projections of the *jaṅghā* display elaborate niche-shrines, while the minor projections show niches surmounted by a *śikhara*-design or a pediment of *chaitya*-arches.

The Nava-Durgā temple at Jageshwar (District Almora) shares the oblong lay-out of the sanctum and the roof-design with the Teli-kā-Mandir but is a much smaller and less sophisticated specimen and is earlier in date. Incidentally, this temple-type had a fairly-wide distribution in time and was in vogue in the Himalayan hills as well as in the plains of north India.

The aforesaid temples are followed by the Jarai-Maṭh at Barwasagar (District Jhansi) and Gaḍarmal

NORTHERN TEMPLES

temple at Badoh (District Vidisha). Both have an oblong pillared sanctum, roofed by a now-mutilated *pañcha-ratha śikhara*. The Gaḍarmal temple adds to the sanctum and vestibule a *maṇḍapa* with transepts and a porch, enclosed by a high balustrade punctuated with projecting elephant-heads. Surrounded by seven subsidiary shrines, this temple stands on a large platform carved with elegant sculptures.

The small but well-proportioned Sūrya temples at Mankheda and Umri in District Tikamgarh, each comprising a sanctum with *pañcha-ratha śikhara* and a porch, are gems of the contemporary style, distinguished by fine sculptures, particularly of the Sun-god. Almost coeval with these is the Chaturmukha-Mahādeva temple at Nachna (District Panna), which has a *pañcha-ratha śikhara* of a broad and uncouth outline decorated with an advanced mesh of *chaitya*-arches. While the windows and doorways of the temple are of the overdoor-design carved with *gaṇas*, scrolls and river-goddesses in the typical Gupta tradition, its basement-mouldings and decorative motifs are of the developed style, indicating a ninth-century date.

The Mālādevī temple at Gyaraspur (District Vidisha) is the most ornate and mature example of the style assignable to the close of the ninth century. Partly structural and partly rock-cut, it consists of an entrance-porch, a *maṇḍapa*, a vestibule and a sanctum with an ambulatory roofed by a *pañcha-ratha śikhara* with a cluster of eight minor *śikharas*. The doorways show the five usual bands, that of the sanctum being carved on the lintel with a row of standing *Jinas* and of the *maṇḍapa* with a figure of *yakṣī* Chakreśvarī as the *lalāṭa-bimba*, indicating the Jaina dedication of the temple.

EARLY MEDIEVAL TEMPLES

The above temples are the most representative specimens of the early medieval style of north India in general and of central India in particular. All of them have a simple plan and display the characteristic ornaments of the style including tall pediments of *chaitya*-arches and garland-frieze on the *jaṅghā*, a *nāga-śākhā* on the doorway and luxuriously-carved motifs of pot-and-foliage, scrolls, *kīrttimukhas* and a square ribbed cushion-capital on the pillars.

The early medieval temples of Rajasthan have a slightly more elaborate plan and display greater ornamentation particularly on the pillars and the ceilings.

The earliest phase is represented by the Harshat-mātā temple at Abaneri (District Jaipur), a much-ruined terraced temple comprising a *pañcha-ratha* sanctum with ambulatory, a pillared *maṇḍapa* and a porch, decorated with fine sculptures representing both religious and romantic secular themes of dance, music, garden-sport and love, depicted with a remarkably rich luxuriousness and a sense of abandon and delight.

The temples at Osian (District Jodhpur) belong to two series, one earlier, assignable to the eighth century, and the other later, attributable to the tenth-eleventh centuries. The earlier series is represented by nearly a dozen and the later by half-a-dozen specimens. The earlier temples (pl. LIV) are characterized by certain peculiarities. They stand on a high moulded platform, punctuated with sculptured niches, and consist on plan of a sanctum, an open pillared *maṇḍapa* and a porch. At least three are of the *pañchāyatana* type with subsidiary shrines in the four corners. They are normally *pañcha-ratha* on plan and in elevation, showing sculptured niches crowned by pediments of *chaitya*-arches on all

NORTHERN TEMPLES

the five projections of the *jaṅghā* with the *dik-pālas* on the corner-projections. A broad recess usually decorated with a frieze of scenes of Kṛishṇa-līlā separates the *jaṅghā* from the *pañcha-ratha śikhara*. The doorways are of four or five *śākhās*, one of them being a *nāga-śākhā*. The pillars and ceilings are highly decorated with bold designs, the former surmounted by double *taraṅga* or palmette-brackets. The sculptures are characterized by voluminous modelling and a simple and limited pantheon including Gaṇeśa, Kubera, Sūrya, Chandra, Revanta, Śiva, Pārvati, Brahmā, Trivikrama, Varāha, Narasiṃha and Hari-Hara.

The Osian temples are followed by the Kālikā-mātā temple at Chitorgarh, datable to the early ninth-century. Originally dedicated to the Sun-god, it consists of a *pañcha-ratha* sanctum with ambulatory having three transepts, a vestibule, a pillared *maṇḍapa* with lateral transepts and a porch. The design of the doorway and pillars, like the decorative ornaments and sculptures, bear close affinity to the Osian group. The Kumbha-Śyāma temple at the same site is similar to the foregoing but is slightly later and more developed.

The Ghateśvara temple (pl. LV) at Barolli (District Udaipur) assignable to the close of the ninth century, consists of a *pañcha-ratha* sanctum with an elegantly-proportioned *pañcha-ratha śikhara*, a vestibule and a *maṇḍapa* with a pyramidal roof of horizontal tiers, flanked by four miniature *tri-ratha śikharas*. The *jaṅghā* is plain and shows sculptured niches on the central projections containing images of Andhakāntaka, Naṭarāja and Chāmūṇḍā. The *maṇḍapa* is entered through a simple *makara-toraṇa* (arch emanating from crocodiles) and is an open oblong compartment, supported on four

EARLY MEDIEVAL TEMPLES

massive pillars, carved with figures of nymphs which resemble those from Khajuraho in verve and posture.

4. MEDIEVAL TEMPLES OF RAJASTHAN

It is in the medieval period that the plan and design of the temples attain a full development and show definite regional traits. In this period sculpture becomes architectonic and inseparable from architecture, though its quality generally tends to deteriorate. The medieval temples of Rajasthan are marked by an elaboration of plan and design over the earlier temples and a profuse wealth of decorative and plastic ornaments.

The Ambikā-mātā temple at Jagat (District Udaipur), assignable to the early tenth century, comprises a sanctum with a well-proportioned *pañcha-ratha śikhara*, a vestibule, a *maṇḍapa* with latticed windows in the lateral transepts and a porch, partly enclosed by a *kakshāsana*-balustrade. All the five projections of its *jaṅghā* as well as the intervening recesses are profusely ornamented with sculptures, often in two rows, which include figures of charming nymphs, elephant-riders and rampant *vyālas* (lion-like mythical beasts), besides deities including the *dik-pālas* at their appropriate places. The *śikhara* of the sanctum, clustered by sixteen miniature *śikharas*, shows a developed form and ornamentation. The roof of the *maṇḍapa* is a flat pyramid of diminishing horizontal tiers, while its ceiling shows the beginning of a coffered cusp with a pendant, which became a characteristic of the medieval temple.

The dilapidated Sun temple at Varman (District Sirohi) is practically similar to the foregoing but with the difference that it adds an ambulatory to the sanctum. Its doorway is of the overdoor-design

NORTHERN TEMPLES

centrally displaying on the lintel an image of Sūrya which is repeated on each of the three *bhadra*-niches (niches on the projections) of the sanctum. The ceilings are either flat or coffered and are carved with floral decorations or scenes of dance and music.

The Lakulīśa temple at Ekalingaji (District Udaipur), dated 977, is a plainer structure, resembling on plan the Jagat temple. This is one of the earliest temples to show an octagonal *maṇḍapa*, with the figure of a goddess projecting from each angle of the octagonal ceiling.

The Mahāvira temple at Ghanerao (District Pali) is almost coeval with the foregoing and adds round the sanctum an ambulatory with three transepts and in front of the octagonal *maṇḍapa* a porch with three bays (*trika-maṇḍapa*), characteristic of the medieval Jaina temples of Rajasthan.

The twin Vaiṣṇava temples called the Sās-bahū at Nagda (District Udaipur), assignable to the early eleventh century, are more evolved, displaying profuse ornamentation. They are entered through a detached *makara-toraṇa* and have the usual plan, comprising a *pañcha-ratha* sanctum, a vestibule, a *maṇḍapa* with lateral transepts and a porch. The *jaṅghā* is plain but for two rows of seated images on the central projections, representing the Brāhmaṇical trinity and Rāma, Balarāma and Paraśurāma. The transepts of the *maṇḍapa*, the exterior as well as the interior of the porch, the pillars, ceilings, architraves and the doorways, however, are lavishly carved with relief-sculptures and decorative designs. The larger temple also shows inside the *maṇḍapa* four *makara-toraṇas*, which generally characterize the medieval temples of western India.

Most representative of the eleventh-century Rajasthan architecture are the temples at Kiradu

MEDIEVAL TEMPLES OF RAJASTHAN

(District Barmer). These have the usual components, but each part is accentuated and ornamented in the typical developed style of Rajasthan. The lowest mouldings of the basement include friezes of elephants, horses and humans known as *gaja-aśva-* and *nara-tharas*. All the projections of the *jaṅghā* are carved with figures and the *maṇḍapa* is a sizable octagonal hall with pillars with profuse ornaments. Lastly, the *śikhara* is clustered by numerous miniature *śikharas*, which became a common characteristic of the western and central Indian architecture.

Since the middle of the eleventh century, when the Abu region of Rajasthan came under the political and cultural sway of the Chaulukyas or Solankis of Gujarat, the influence of the Solanki style infiltrated Rajasthan, as illustrated by the group of Jaina temples at Kumbhariaji (District Banaskantha). Gradually the Rajasthan style lost its individuality and practically merged into the Solanki style, as is seen in the Dilwārā group of marble Jaina temples at Mount Abu, of which the most important are the Vimala-Vasahī and Lūṇa-Vasahī, built respectively in 1031 and 1230. Each consists of a sanctum, a *maṇḍapa* with lateral transepts and a porch of nine compartments (*nava-chaukī*) with a *sabhā-maṇḍapa* (spacious open hall) in front, the whole placed in a quadrangular court, surrounded by an enclosure of shrine-cells preceded by two bays of colonnaded corridors. The external appearance of the temples with low roofs and plain enclosure-walls is unimpressive and is in sharp contrast to the exuberant decoration of the interior. Specially noteworthy is their *sabhā-maṇḍapa*, an octagonal hall resting on eight exquisitely ornamented pillars with attic sections carrying multi-cusped *torāṇa*-arches

NORTHERN TEMPLES

in between. Their ornate architraves support a circular ceiling of ten diminishing rings, all of which are loaded with a bewildering wealth of carvings including sixteen life-size figures of the *vidyā-devīs* and a magnificently-designed central pendant. With their minutely-carved doorways, pillars, architraves and ceilings, these temples constitute marvels of stone-chiselling; their over-ornamented interior, however, leaves the visitor with a fatigued mind which looks in vain for respite and poise—the two essential qualities of good architecture.

Building-activity in the Solankī style continued in Rajasthan till the fifteenth century. Two noteworthy examples of the later phase of the style are the nine-storeyed Kirtti-stambha (Tower of Fame) at Chitor, built by Rāṇā Kumbha between 1440 and 1448, and the Jaina Chaumukhā temple at Ranakpur (District Pali), dated 1438, the former unique for the loftiness of its design and the latter for the grandness of its dimensions.

5. MEDIEVAL TEMPLES OF CENTRAL INDIA

In central India the principal medieval dynasties like the Kalachuris, Chandellas, Kachchhapa-ghātas and Paramāras, holding sway respectively over the eastern, central, northern and western parts of central India, built temples which have many common elements of plan, design and decorative scheme with unmistakable divergences due to dynastic or regional factors.

The earlier temples of the Kalachuris are represented by the Śiva temples at Nohta (District Damoh) and Chandrehi (District Sidhi) and the group of temples at Amarkantak (District Shahdol), all assignable to the tenth century. On plan they

MEDIEVAL TEMPLES OF CENTRAL INDIA

comprise a sanctum, vestibule and *maṇḍapa*, partly enclosed by an ornate balustrade. The Nohta one however, adds an entrance-porch and also displays two rows of sculptures on the walls of the *pañcha-ratha* sanctum which is roofed by a stunted *śikhara* of ugly outline. The Chandrehi temple is notable for the circular plan of its sanctum comprising sixteen *bhādras* (projections). The Amarkantak temples are devoid of ornaments and generally comprise of a *pañcha-ratha* sanctum, a vestibule and a pillared *maṇḍapa* with a *kakshāsana*-balustrade. The Kārṇa temple at this site is a triple-shrined structure comprising three *sapta-ratha* sanctums with a common *maṇḍapa*, which is now lost. The Chausaṭh-Yoginī temple at Bheraghat (District Jabalpur) is a hypaethral circular temple with eighty-one peripheral chapels enshrining images of the sixtyfour *yoginīs* and allied deities, with the principal shrine dedicated to Umā-Maheśvara situated in the open court. The most developed temple of the group is the Virāṭeśvara temple at Sohagpur (District Shahdol), attributable to the eleventh century. It bears partial resemblance to the fully-developed Khajuraho temples (p. 177) in displaying three bands of sculptures on the sanctum-façade and in the composition of the *śikhara*, though the general effect is dissimilar due to difference of proportions and a divergent form of *maṇḍapa*.

The temples of the Kachchhapaghātas, confined to the north-western parts of central India, are distinguished by a low plinth, a double register of sculptures on the *jaṅghā*, low pillars decorated with pot-and-foilage motif, a doorway of five bands, of which one is carved with a stylized *nāga-śākhā* and another with a pilaster-design with spiral decorative bands, and a frieze of square rafter-ends embellished with

NORTHERN TEMPLES

monkey-heads below the *śikhara* of a medium height. The earlier phase of the style is represented by the temples at Surwaya (District Shivpuri), dating from the tenth century, and its middle phase by the Kakanmadh temple at Suhania (District Morena), built by Kachchhapaghāta Kīrttirāja (1015-35). Standing on a lofty platform and surrounded by subsidiary shrines, the Suhania temple is notable for its size and sculptural wealth and comprises a sanctum with an ambulatory, roofed by a tall *śikhara* (31 m. high), a grand hypostyle *maṇḍapa* and a porch approached by a flight of steps. Kadwaha (District Guna) was a prolific centre of the school with remains of over two dozen temples. The latest and the largest temple at the site known as the Murāyat, dating from *circa* 1075, is notable for its simple lay-out comprising a *pañcha-ratha* sanctum, a vestibule and a *maṇḍapa* with a highly-ornamented treatment of the interior as well as the exterior. The twin Vaishṇava temples known as the Sās-bahū at Gwalior, the main seat of the Kachchhapaghātas, marks the climax of the dynastic style. The larger of the two, completed in 1093, comprises a sanctum, a vestibule and a *maṇḍapa* with three entrance-porches and shows a two-storeyed elevation for the vestibule and the entrance-porches and a three-storeyed elevation for the *maṇḍapa* which has a lofty roof. The *śikhara* over the sanctum, which must have been over 31 m. high, is lost. The *maṇḍapa* is a large hall of twelve sides with a circular ceiling supported on four massive pillars and twelve pilasters. Displaying extravagance of ornamentation, both plastic and decorative, the temple is notable for its impressive design and dimensions.

The Paramāras of Malwa patronized a style which, with its focal point in Malwa, had a wide

MEDIEVAL TEMPLES OF CENTRAL INDIA

distribution over the contiguous regions all around, including north Deccan. The outstanding feature of the style is the *śikhara* which shows four spines with the usual decoration of *chaitya*-arches on the central projections and a distinctive grouping of miniature *śikharas* in the interspaces of the spines in the four quadrants, the number of minor *śikharas* ranging from three to five rows horizontally and five to nine rows vertically. Another peculiarity of these temples is a prominent sculptured medallion within a large *chaitya*-window at the base of the spine on the three sides. The temples comprise on plan a sanctum without ambulatory and a *maṇḍapa* approached by three entrance-porches. The *maṇḍapa* has a peculiar roof called *śaṁvaraṇā* (a distinctive geometrical arrangement of rooflets), which is shared by the Solankī temples of western India. Among the Paramāra monuments of central India, notable are the group of temples at Un (District West Nimar) and the Udayeśvara temple at Udaypur (District Vidisha). The latter temple, built by the Paramāra king Udayāditya between 1059 and 1080, is the most finished example of the style, remarkable alike for its ambitious size, good proportions and sculptural ornamentation. Its sanctum is both stellate and circular on plan. The temple has other usual compartments to which are added a low flat-roofed *sabhā-maṇḍapa* in front and seven subsidiary shrines around. The Siddheśvara temple at Nemawar (District Dewas) is the loftiest temple of the style, exhibiting as many as nine vertical rows of miniature *śikharas* studded round the stem of the main *śikhara*.

As stated above, this style had wide ramifications and was as popular in Rajasthan as in the north Deccan. It is but natural that each outlying

NORTHERN TEMPLES

region should also exhibit some regional traits. The outstanding specimens of this style in Rajasthan include, besides temples at Chitor, the Mahānāl temple at Menal (District Chitor), the Śiva temple at Ramgarh (District Kota) and also the so-called Sun temple at Jhalrapatan (District Jhalawar). The last temple shows a complicated *śikhara*-design and introduces multi-cusped *torāṇas* at the entrance-porches and two bands of sculptures on the sanctum-*jaṅghā*, which are features of Rajasthan grafted on the Paramāra style. In the north Deccan the prominent examples of the style are the Ambarānātha temple at Ambarnath (District Thana) and the temples at Balsane (District Dhulia), besides the Goṇḍeśvara temple at Sinnar and the Mañkeśvara temple at Jhodga (both in District Nasik).

The Chandellas, who were the greatest central Indian power during the tenth-eleventh centuries, were known as great builders. They decorated their realm with tanks, forts, palaces and temples and lavished particular attention on one of their capital-towns Khajuraho (District Chhatarpur), which is notable for possessing one of the most distinctive groups of temples. Except for the Chausaṭh-Yoginī, Brahmā, Lālguān-Mahādeva, Varāha and Mātangeśvara, all the temples of Khajuraho pertain to the typical Chandella style and share certain peculiarities of plan and elevation (pl. LVI). They are compact and well-knit structures, some combining all the developed constituents of the temple-plan, comprising an entrance-porch, a *mandapa*, a *mahā-mandapa* with lateral transepts, a vestibule and a sanctum enclosed by an ambulatory with lateral and rear transepts. Erected on a lofty platform-terrace, the temples have an emphatically-high basement storey consisting of a series of ornamental

MEDIEVAL TEMPLES OF CENTRAL INDIA

mouldings which picturesquely grip the platform-terrace. Over this stable and ornate base rests the *jaṅghā* which consists of solid walls alternating with the voids of the inner compartments. The balconied windows canopied by overhanging eaves provide ventilation to the interior and form beautiful openings for the inner compartments. The solid wall-spaces between them are studded with two or three horizontal bands of statuary of exquisite grace which constitute a striking feature of these temples. The deep shadows cast over the whole composition by the beautiful balconied windows and the light and shade falling over the sculptural bands following the alternate projections and recesses of the indented plan indeed produce a highly pictorial effect. Above the central zone of the *jaṅghā* rise the individual roofs over the several compartments in a modulated crescendo, from the lowest over the entrance-porch to the loftiest over the sanctum.

The developed Khajuraho temples are characterized by an intricate arrangement of subsidiary *śikharas* of diminishing sizes attached to the main *śikhara* at graded heights. The clustering together of subsidiary peaks to the main peak and the progressive ascent of the roofs converging to the highest pinnacle lend a peculiar vertical quality and rhythm to the temples. Their porch is entered through a highly-ornate *makara-toraṇa*, and the interior too displays an amazing exuberance of decorative details and sculptural wealth, largely found on the doorway, pillars, architraves and ceilings. Particularly remarkable are the female bracket-figures of the interior, which, with their sensuous modelling, charming postures and exquisite finish, constitute masterpieces of medieval sculpture. The plastic art

NORTHERN TEMPLES

of Khajuraho revels in admiring the charms of the human body from the most fascinating angles and excels the contemporary schools of Indian art in the vivid portrayal of human moods and fancies which are competently expressed through the medium of gestures and flexions with a frankly sensuous provocation.

The developed Khajuraho style begins with the Lakshmana temple (*circa* 950), which was followed by the Pārśvanātha, Viśvanātha (*circa* 1002), Jagadambi and Chitragupta, marking the successive stages in the architectural or sculptural efflorescence at Khajuraho. The peak is reached in the Kandariyā-Mahādeva (*circa* 1025-50) which represents the grand finale of the architectural and sculptural movement. The temples that followed, viz. the Vāmana, Ādinātha, Javāri and Chaturbhuja, are less ambitious projects, though they generally keep up the sculptural excellence of the style. The last surviving temple, the Dūlādeo (*circa* twelfth century), marks the last glow of the dying lamp, combining as it does dynamism and vigour with over-ornamentation. With their *sapta-ratha* sanctum, vertical accentuation of each constituent of the elevation, rhythmic concordance of the lineaments of the plan and elevation converging to the final unity of the *śikhara* and plastic exuberance, combined with a harmonious integration of sculpture with architecture, the Khajuraho temples indeed mark the highest development of the north Indian architectural design.

6. TEMPLES OF GUJARAT

The earliest temples of Gujarat, attributable to the Maitrakas of Valabhi, are small structures of

TEMPLES OF GUJARAT

a simple plan and design showing a tall plain *jaṅghā*, surmounted by a pyramidal roof of stepped cornice-like courses, decorated with a diminishing number of bold *chaitya*-windows. The temple at Gop (District Jamnagar), assignable to the sixth century, is the earliest temple with the shortest roof comprising two such courses, while the temple at Bileswar (District Junagadh), with a tall roof of six tiers, is the most evolved example of this class, dating from the close of the seventh century. More than fifty kindred temples, with the roof comprising three-to-five similar tiers, have been located along the coastal region of Gujarat, at such sites as Pindara, Navidhrewad and Son-Kansari (District Jamnagar), Harshadmata near Miyani, Kinderkheda, Visawada, Khimeswar and Bhanasara (District Junagadh) and Kalsar (District Bhaunagar).

The Varāha temple at Kadwar, near Prabhaspatan (District Junagadh), assignable to the late seventh century, forms a link between the Maitraka temples and the neighbouring Sun temple at Sutrapada of the early eighth century, exhibiting a rudimentary northern *śikhara* of the *tri-ratha* form. The two temples have essentially a similar plan comprising a sanctum with ambulatory, a *maṇḍapa* with a sloping roof and an entrance-porch. The Sutrapada temple is followed by the temples at Roda (District Sabar-Kantha) of the late eighth century, comprising a sanctum with a stunted *tri-ratha* or *pañcha-ratha śikhara* and an entrance-porch with an occasional *maṇḍapa* carrying a simple pyramidal roof. Almost coeval with the Roda group is Harishchandra-ṇi-Chori at Shamlaji (same District), with flat-roofed *raṅga-maṇḍapa* (open *maṇḍapa*).

A further evolution of the regional style is traceable through the ruined Sun temple at Bhimnath

NORTHERN TEMPLES

near Prabhas-Patan, the Khimrana temple near Jamnagar, the Śiva temple at Manjal in Kutch and the small shrines at Miyani, all of the ninth century, followed by the celebrated Rāṇakdevī temple at Wadhwan (District Surendranagar). The last is notable for the exquisite workmanship and proportions of its *pañcha-ratha śikhara* (pl. LVII). Almost coeval with the Wadhwan temple and sharing with it a full-fledged *pañcha-ratha śikhara* is the Gaṇeśa temple at Ghumli (District Jamnagar) which, nevertheless, perpetuates Maitraka tradition in its tall plain *jaṅghā*.

Among the tenth-century temples of Gujarat prominent are the Lākheśvara temple at Kerakot and Śiva temple at Kotai (both in Kutch), Amther-mātā temple at Vadnagar and the Trinetreśvara and Muni-Bāwā temples near Than (both in District Surendranagar). The Kotai temple resembles in significant architectural and decorative features the Ambikā-mātā temple at Jagat in Rajasthan (above, p. 169), while the Muni-Bāwā temple is the earliest regional example to exhibit an octagonal *maṇḍapa* with eight *vidyādhara*-brackets. They are closely followed by the Bhāḍeśvara temple at Anjar in Kutch and the Viṣṇu temple at Sander (District Mehsana), both of which represent the incipient Solaṅkī style.

Under the Solaṅkī kings of Gujarat blossomed a distinctive and prolific regional building-art called the Solaṅkī style which appeared with its full vocabulary in the early eleventh century during the reign of Bhimadeva I. On plan a Solaṅkī temple consists of a sanctum, a closed hall (*gūḍha-maṇḍapa*) and a porch. In larger temples a detached peristylar hall, known as the *sabhā-maṇḍapa*, is added in the same axis, often preceded by an ornamental arched entrance (*kīrtti-torāṇa*). In rare cases the

TEMPLES OF GUJARAT

maṇḍapa has more storeys than one. In elevation the Solāṅkī temple has the usual components of a northern temple, but the mouldings and decorative ornaments of the components below the *śikhara* occur in a definite sequence. Thus, the lowest mouldings of the basement are defined and are surmounted by friezes representing elephants and humans (*gaja-thara* and *nara-thara*). Similarly, the arrangement and embellishment of the *jaṅghā* and its surmounting mouldings and decorations also conform to a fixed pattern. An overhanging eaves-like moulding separates the *jaṅghā* from the *śikhara*, which is similar in design to the Rajasthan temples, while the *maṇḍapa* is covered by a *saṁvaraṇā* roof, which consists of a pyramidal composition of diagonally arranged rooflets, crowned by bell-members. The interior arrangement also displays individual features. The *maṇḍapa*-halls are peristylar in design and the pillars are lavishly ornamented with figures and decorative designs arranged in a definite order. The hall shows an octagonal arrangement, and its ceiling consisting of diminishing concentric rings is richly carved and often terminates in an exquisitely designed central pendant. In larger structures, ornamental arches (*toraṇas*) are thrown across the principal pillars of the *maṇḍapa*.

The earliest Solāṅkī monument is the temple of the Sun-god at Modhera (District Mehsana), marking the grandest achievement of the style. Dating from 1026, the temple comprises of three separate but axially-aligned and integrated elements, viz. (1) the main complex comprising sanctum with ambulatory, *gūḍha-maṇḍapa* and porch, (2) *sabhā-maṇḍapa* with a *kīrtti-toraṇa* in front, and (3) a large flagged tank decorated with an array of miniature shrines. The *sabhā-maṇḍapa*, described as a 'magnificent pile of

NORTHERN TEMPLES

pillared splendour', is a diagonally-disposed hall with an octagonal arrangement of central pillars carrying *torāṇa*-arches. Even in its ruined state the temple is a majestic conception with an ornate plinth and a *jaṅghā* embellished with dignified sculptures dominated by images of the Sun-god.

The Modhera temple is followed by the Rudreśvara temple at Prabhas-Patan, wherein the octagonal design of the *maṇḍapa* is absent. Of the remaining Solaṅki monuments of the early eleventh century noteworthy are the Someśvara temple at Gorad, Śiva temple at Sander, Mātā temple at Dhinoj and the main temple of Limboji-mātā at Delmal (all in District Mehsana). The Nilakaṇṭha-Mahādeva temple at Sunak in the same District is the most developed among the eleventh-century temples, showing a *śikhara* with three rows of embreasted miniature *śikharas* and an octagonal *maṇḍapa*-ceiling decorated with twelve bracket-figures of divine nymphs.

A prolific architectural activity was recorded during the twelfth century under the active patronage of the Solaṅki rulers Siddharāja Jayasimha (1094-1143) and Kumārapāla (1143-72). Among the early twelfth century temples prominent are the Navalakhā temple at Sejakpur (District Surendra-nagar), the Rudra-mahālaya at Sidhpur (District Mehsana) and the double-shrined temple at Viramgam (District Ahmadabad). The Rudra-mahālaya was a magnificent multi-storeyed Śiva temple with eleven subsidiary shrines dedicated to the eleven *Rudras*, now in fragments. Vadnagar (District Mehsana) had a temple comparable in size and grandeur with the Rudramahālaya, as is indicated by the extant remains of a pair of *kīrtti-torāṇas*.

TEMPLES OF GUJARAT

Side by side with larger temples, smaller ones with a modest plan, comprising a sanctum, a *maṇḍapa* and occasionally a porch, were also built displaying the characteristic architectural and decorative traits of the style. Of these mention may be made of the Hingloji-mātā temple at Khandosan, (dated 1150), Jasmalnāth temple at Asoda, Śitalā-mātā temple at Piludra, Śiva temple at Ruhavi, Someśvara temple at Kanoda and the triple-shrined temple at Kasara (all in District Mehsana).

The celebrated temple of Somanātha at Prabhas-Patan was originally built during the tenth century and underwent successive demolitions followed by reconstructions. Thus, after the sack of Maḥmūd of Ghazni in 1025 the temple was rebuilt by Bhima I. But the greatest temple belonged to the time of king Kumārapāla, resembling in dimensions and essential design the Rudra-mahālaya at Sidhpur. This edifice comprised a sanctum enclosed by ambulatory with three transepts, a vestibule and a magnificent *gūḍha-maṇḍapa* with three entrances. It had a lofty and ornate plinth and a loftier *jaṅghā*, adorned with two rows of sculptures, the battered remnants of which are now exhibited in the local museum.

The colossal Jaina temple at Taranga (District Mehsana), originally attributable to king Kumārapāla but renovated subsequently, is likewise an impressive structure for its size as well as design.

The momentum of building-spree was maintained during the thirteenth century, though towards the latter half of the century the old vigour and elegance gave way to artistic ossification. The earliest temple of this century is the Nilakaṇṭha-Mahādeva temple at Miyani, dated 1204, with a well-proportioned *śikhara* and a plain *raṅga-maṇḍapa*. The Navalakhā temple at Ghumli (District Jamnagar), following it

NORTHERN TEMPLES

closely, is a richly-ornamented ambitious structure, comprising a sanctum with ambulatory and a two-storeyed *maṇḍapa* of a design, somewhat akin to that of the larger Sās-bahū temple at Gwalior (above, p. 174).

The later temples, affiliated mostly to the Jaina faith, are largely concentrated on the sacred hills like Girnar (District Junagadh) and Satrunjaya (District Bhaunagar), the latter showing a cluster of five hundred temples in eleven separate enclosures. These temple-cities are haphazard growths without any regular plan and most of their structures have lost the original character due to repeated renovations. Nevertheless, the triple-shrined temple of Neminātha at Girnar, built by the celebrated Jaina minister Tejapāla in the thirteenth century, is a creditable specimen of Solankī architecture.

7. TEMPLES OF ORISSA

Orissa had a distinctive regional style which started in the seventh century with the earlier group of temples at Bhubaneswar and culminated in the thirteenth century in the Sun temple at Konarak (District Puri). The course of evolution here is towards a greater elaboration of the plan and elevation from *tri-ratha* to *sapta-ratha* and an increasing sophistication of the decorative and plastic ornaments. There was a corresponding increase in the number and height of the mouldings of the basement, *varaṇḍikā* (region between the *jaṅghā* and *śikhara*) and of the storeys and crowning members of the *śikhara*. A steady trend towards the accentuation of height widens the ratio between the size of the sanctum and the height of the *śikhara* from 1:3 at the initial stage (Paraśurāmeśvara temple) to approximately 1:7 in

TEMPLES OF ORISSA

the latest temple at Konarak. Whereas in the characteristic Orissan temples the sanctum with the curvilinear *śikhara* (*rekhā-deul*) is invariably associated with a square astylar *maṇḍapa* (*jagamohana*) with a pyramidal roof of horizontal tiers (*piḍhā-deul*), on the earlier temples the *maṇḍapa* is a closed pillared hall covered by a low flat roof of two sloping tiers with a clerestory in between.

The Paraśurāmeśvara temple, dating from about the close of the seventh century and representing the earlier group of temples, has such a pillared *maṇḍapa* attached to a *tri-ratha* sanctum with a stunted and broad-shouldered curvilinear *śikhara*. The niches on the central projection of the *jaṅghā* of the sanctum jut out and have preserved on the south and east sides massive figures of Gaṇeśa and Kārttikeya. The façades of the *maṇḍapa* are carved with a large number of Brāhmaṇical deities and decorative motifs. The interior of the temple is plain in contrast with the ornate exterior. The doorways are of the over-door design, that of the sanctum being carved on the architrave with inscribed figures of all the planets but Ketu, a characteristic of the earlier Orissan temples.

The next stage is marked by the Vaitāl-Deul, which with its uncommon architectural form is notable for sculptural grace and decorative exuberance. On plan it comprises an oblong sanctum with a wagon-vault roof (locally called *khākharā*) and a *maṇḍapa* similar to that of the Paraśurāmeśvara with the addition of a subsidiary shrine roofed by a *tri-ratha śikhara* at each corner. The treatment of its *jaṅghā* and *śikhara* with sculptures and decorative ornaments is unique in Orissa. Dedicated to the goddess Chāmuṇḍā, the temple dates from the close of the eighth century.

NORTHERN TEMPLES

The Mukteśvara temple, (pl. LVIII) assignable to the middle of the ninth century, marks a transition between the earlier and later temples at Bhubaneswar. Surrounded by a low enclosure-wall, the temple is entered through an ornate *makara-toraṇa*. It retains some of the earlier features, e.g. a single row of sculptures on the *jaṅghā* and a recess dividing the *jaṅghā* from the *śikhara* which shows a gradual curvature above the recess. The sanctum, however, is now a full-fledged *pañcha-ratha* on plan and in elevation and the *maṇḍapa*-roof has horizontal tiers, though with a simple *kalāśa* (vase) as a crowning ornament. Further, the basement has now five developed mouldings and the *jaṅghā* introduces some of the typical Orissan ornaments like female figures in enchanting poses (*kanyās*), *nāgas* or *nāgīs* entwining pilasters and *gaja-vyālas* (lion-on-elephant motif). Its *śikhara* has a rounded contour and shows on the central projection an elaborate *chaitya*-window flanked by two grinning dwarfs, constituting an early form of the *bho*-motif, characteristic of the developed Orissan style.

The typical Orissan form emerges in the tenth century with the temples called Siddheśvara and Kedāreśvara.

The Rājārāṇi temple, datable roughly to the early eleventh century, represents a unique experiment in Orissa in that its *śikhara* is clustered by miniature repetitions of itself, as on the temples of western and central India including Khajuraho. This temple is also notable for its sculptural excellence and profusion of ornaments.

The Liṅgarāja temple, also dating from the eleventh century, is the grandest and loftiest (45 m. high) temple marking the culmination of the architectural activity at Bhubaneswar. Originally the temple

TEMPLES OF ORISSA

consisted of the sanctum and *maṇḍapa* and two other halls were subsequently added to it axially. The sanctum is *pañcha-ratha* on plan with its portion below the *śikhara* of five divisions, resting on a basement of five richly-carved mouldings. The central niche-projections on the three sides show images of Gaṇeśa, Kārttikeya and Pārvatī which are remarkable for their fine modelling and imposing size. The lower register of the *jaṅghā* is embellished with niches representing miniature shrines with wagon-vault roof (*khākharā-muṇḍis*) and the upper with those having roofs of horizontal tiers (*pidhā-muṇḍis*). The former niches contain figures of the *dik-pālas* and miscellaneous friezes, and the latter niches contain images of various Brāhmaṇical deities. While the recesses of the lower *jaṅghā* are decorated with a variety of *vyālas* (lion-like mythical animals), those of the upper *jaṅghā* show graceful female figures in enchanting postures. The height and soaring character of the towering *śikhara* are emphasized by the deeply-incised lines of the *rathas* (vertical projection), a pair of which carry four diminishing replicas of the tower itself as a decorative pattern. Like other principal mouldings, the storeys of the *śikhara* have also increased in number as well as in height.

The *maṇḍapa* or *jagamohana* (height 29·8 m.) constitutes a grand complement to the sanctum, its roof-tiers being exquisitely adorned with friezes of armed processions, pageantry and miscellaneous scenes. With its mature planning, impressive dimensions and appropriate plastic and decorative ornamentation, this temple ranks high among the architectural masterpieces of India.

Temples in this developed style, typified by the Liṅgarāja, continued to be built at Bhubaneswar

NORTHERN TEMPLES

and elsewhere in Orissa. The famous temple of Jagannātha at Puri, which is slightly later than the Liṅgarāja, shows the same mature plan but is loftier and larger.

The grand culmination of the style was reached in the Sun temple at Konarak. Built in the thirteenth century, it was conceived as a gigantic solar chariot with twelve pairs of exquisitely-ornamented wheels dragged by seven rearing horses. The temple comprised a sanctum with a lofty (presumably over 68 m. high) *śikhara*, a *jagamohana* (30·8 m. square and 30·8 m. high) and a detached *nāṭa-mandira* (hall of dance) in the same axis, besides numerous subsidiary shrines. The sanctum and the *nāṭa-mandira* have lost their roof. The *nāṭa-mandira* exhibits a more balanced architectural design than that of other Orissan temples. The sanctum displays superb images of the Sun-god in the three projections which are treated as miniature shrines. The sanctum and the *jagamohana* together stand on a common platform studded with an intricate wealth of decorative ornaments and sculptures, often of a highly erotic type.

The roof of the *jagamohana*, made of horizontal tiers grouped in three stages with life-size female sculptures of matchless charm and delicacy adorning each stage, the whole surmounted by two stupendous crowning members, produces a picturesque contrast of light and shade and is unparalleled for its grandeur and structural propriety. Majestic in conception, this temple is indeed one of the sublimest monuments of India, notable as much for its imposing dimensions and faultless proportions as for the harmonious integration of architectural grandeur with plastic elegance.

8. LATER TEMPLES OF BENGAL

Temples continued to be built in later centuries in the different regions of India, following the traditional regional modes with certain modifications and innovations. Although they are normally at a lower aesthetic level, some of them, like those of Bengal, impress by their pleasing forms and sculptures, the latter displaying the traditional vigour of folk-art. A group of Vaishṇava brick-temples at Bishnupur (District Bankura), dating between the seventeenth and eighteenth centuries, is characterized by a simple curved roof, representing the form of the regional bamboo-and-thatch constructions, and by a wealth of moulded brickwork and terracotta sculptures. The use of the typical Bengal *chhajjā* is illustrated by the Chār-Bāṅlā temple at Baranagar (District Murshidabad), while the leaf-hut is represented by the Rāñī-Bhavāñī temple near Murshidabad. Other popular forms are *pañcha-ratna* and *nava-ratna*, displaying a distinctive and pleasing grouping of *śikharas* in tiers.

KRISHNA DEVA

PLATES

PLATE I



Kalbhangan street with houses on either side Harappa period Sec p 5

PLATE II



C



B



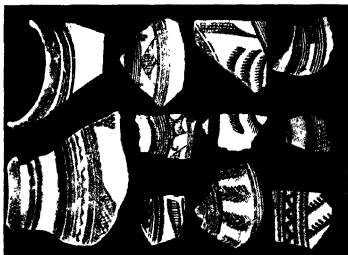
A



D

A. Rupar B. Lothal and C. Kalibangan Harappan sealings D. Lothal 'Pashu Gali' seal See pp 8, 28, 5 and 30

PLATE III



B

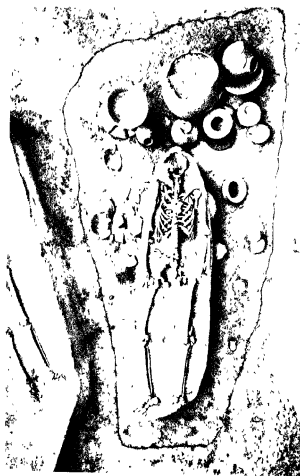
B, Bara painted pottery See pp 4 and 9



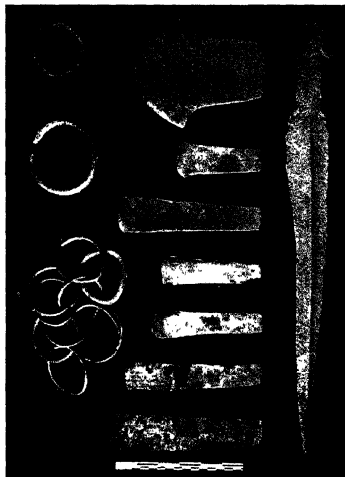
A

A, Kalibangan pre-Harappan pottery

PLATE IV



Rupa - burial, Harappa period. See p. 8



Bahadurabad copper board See p. 12

PLATE VI



A *Hastuipora* section showing crystallization

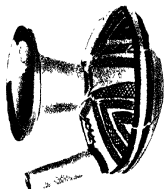
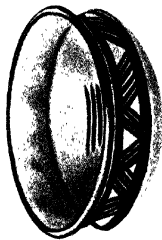


B *Karsdünst* detritus See pp 13 and 14

B



A B

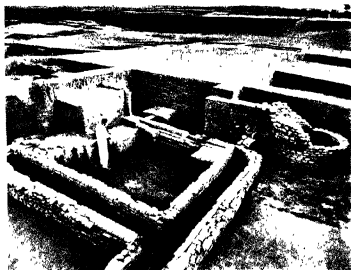


C D

PLATE VII

A and B Navaho channel-spouted bowl and stemmed bowl C Navaho concave-sided bowl, D, Vevaya spouted jar See pp. 21, 24 and 25

PLATE VIII



A



B

*Lothal - A, drains and well and B, dockyard with spill-channel,
Harappa period. See pp. 29 and 30.*

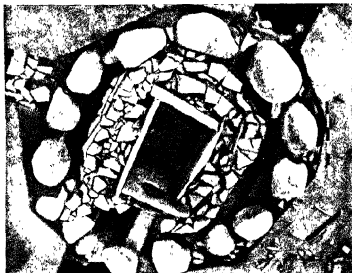


A

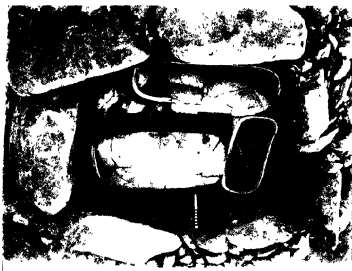


B

A, *Cochia* umbrella-stone B, *Burzahom* bone tools.
See pp 37 and 40

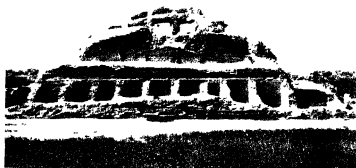


A



B

A, Brahmagiri excavated megalith B, Sanur excavated sarcophagi See p 38

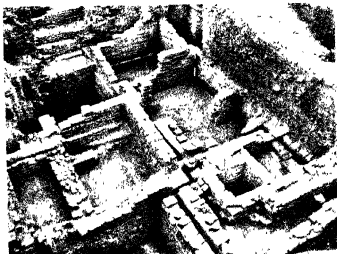


A, Rupa retaining-wall of a tank with inlet. B, Anichhatta terraced temple. See pp. 45, 49 and 51.

PLATE XII



A



B

A, *Kausambi* palace-walls, showing three phases. B, *Rajghat* brick structures. See pp. 55 and 58.

PLATE XIII



A A, Rough rubble tampon-t-wall B B, Uram wooden rafters caging the tampon-t-wall.
 See pp 60 and 69

PLATE XIV



A



B

A, *Sisujalgarh* gateway B, *Arikamedu* tank in a courtyard.
See pp. 82 and 83



A



B



C



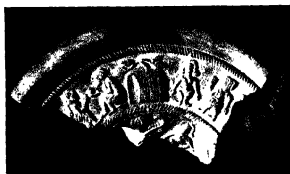
D

A and B Rupar terracotta vaksha and mithuna figure, C and D, Ujjain terracotta figures. See pp 49, 51 and 70

PLATE XVI



A



B



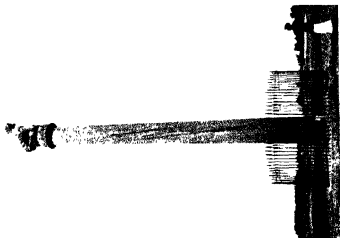
C



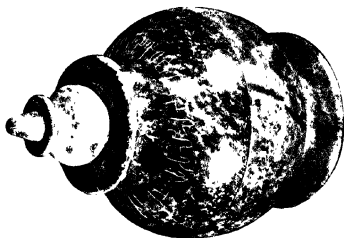
D

A, Kamraha (Patna) terracotta head B, Rupa carved stone disk C, Sisupalgarh clay bulla D, Arikamedu stamped Attic ware See pp 65, 48, 82 and 84

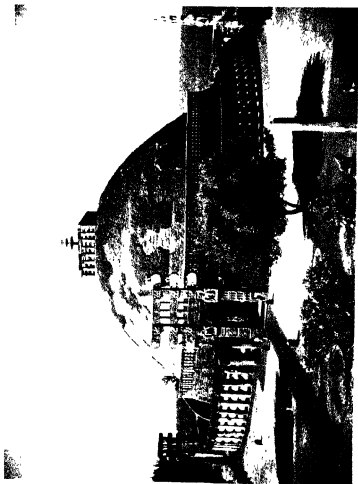
PLATE XVII



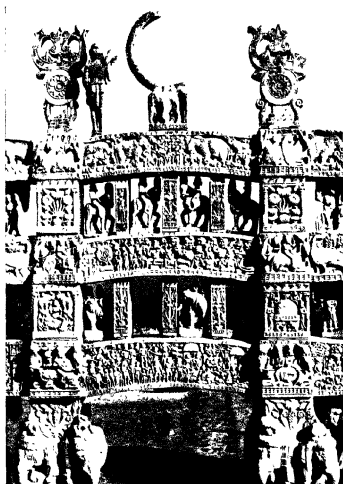
A *Lauriya-Nandargarh column of Aśoka*



B *Piprahwa inscribed reliquary* See pp. 87-88



Sancho Stūpa I. See p. 90

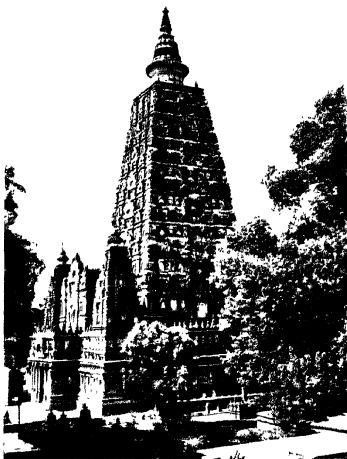


Sanchi gateway. See p 91

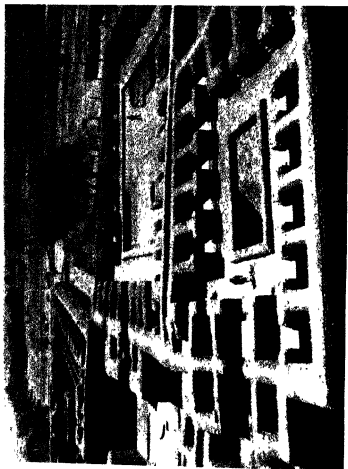
PLATE XX



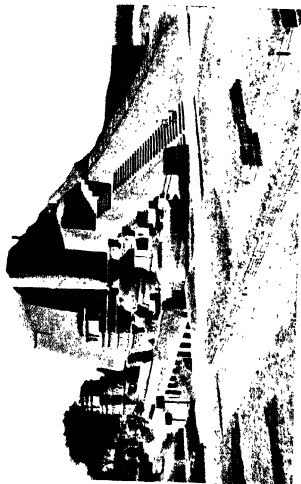
Sarnath — Dhamekh Stūpa — See p. 92



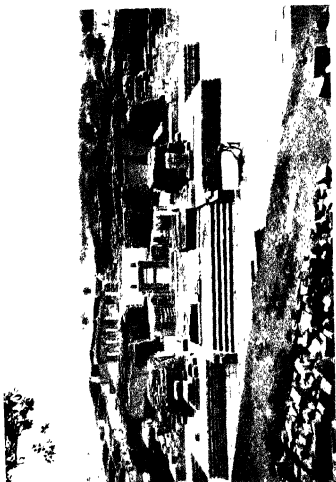
Bodhi-Gaya Mahabodhi temple See p. 94



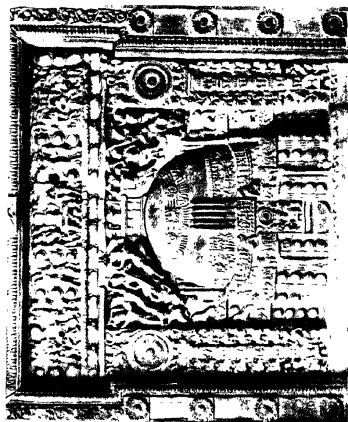
Vellanda monastery See p. 95



Nālandā Temple 3 See p 95

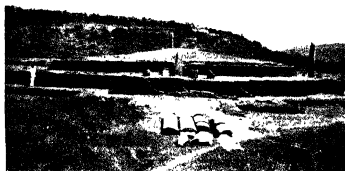


Rathnagiri monastery See p. 97

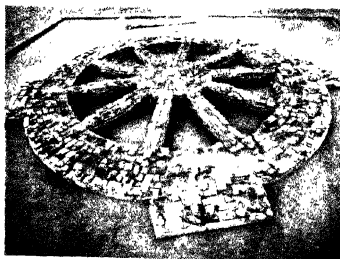


Amanavati decorated drum-slab with stupa-representation See p. 105

PLATE XXVI



A



B

Nagayumakonda A, Mahāstūpa, and B, stūpa-base with ten spokes
See pp. 105 and 6



A



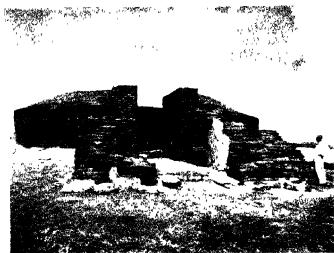
B

Nagajunakonda. A, monastery with stupa in background and, B, reconstructed chaitya-griha with Buddha figure of same complex.
See p. 107

PLATE XXVIII



A



B

Sahhūndam. A circular chaitya-griha, votive-stūpas and spoked stūpa-base, and B main circular chaitya-griha. See p. 108



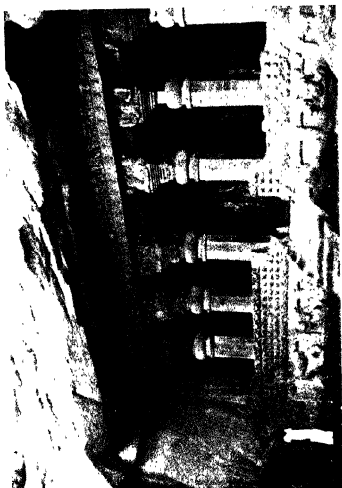
Bachan Lomdovish cave See p 111



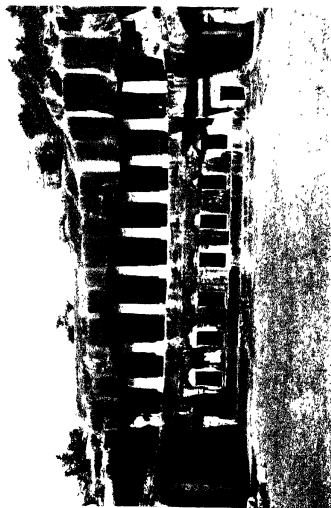
Bhaja rock-cut chaitya-hall from view. See p. 114



Kanle rock-cut chaitya-hall interior view See p 116



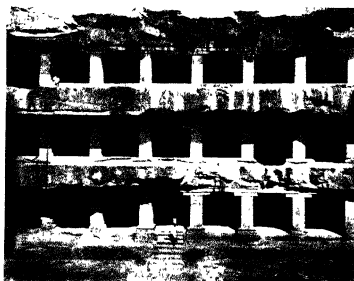
Νεσός Γουλιέλμου Νέκρ. II



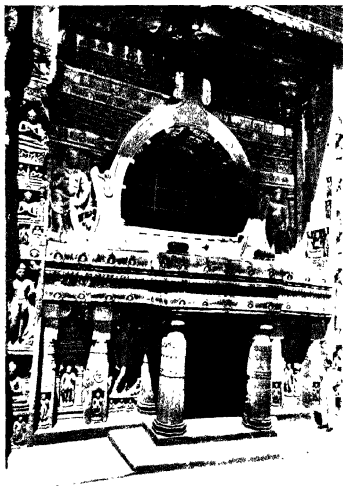
Udayagiri Cave I. Rani-gumpha See p. 122



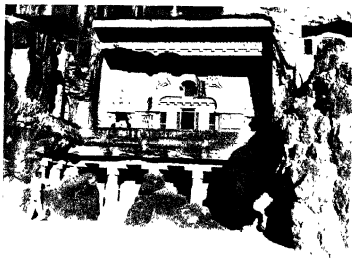
Khandagiri Cave 3. Inanda-gomphā. See p. 123



A, Bagh rock-cut vihāra. B, Ellora Cave 12, three-storied vihāra. See pp. 124 and 129



Ajanta — Cave 19, front view — Sec. II-125



A



B

Ellora A Cave 10 front view and B stūpa with Buddha figure inside. See p. 126

PLATE XXXVIII



A



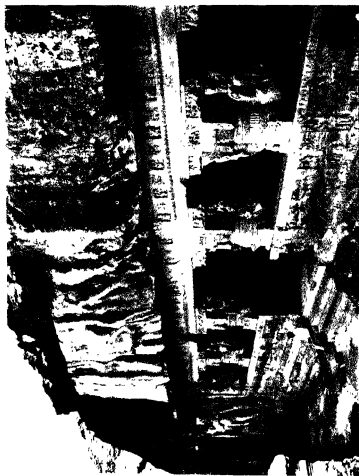
B

A. Udaigiri cave-temple ; B. Mahabalipuram Kotikal mandapam cave-temple. See pp. 130 and 143

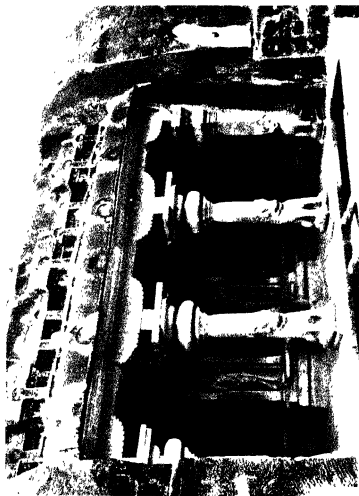


Badami Cave I with image of Vishnu See p 132

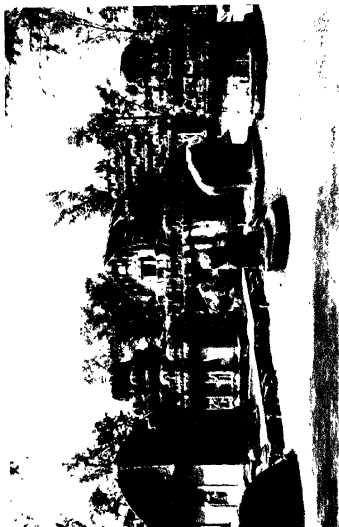
PLATE XI



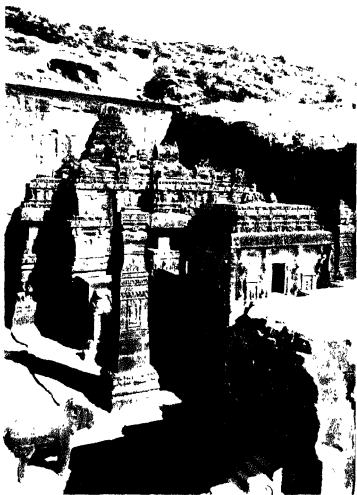
Iliod Cave 21 Râmnicu See p. 134



Mahabalipuram Varaha-mandapam cave-temple See p 145



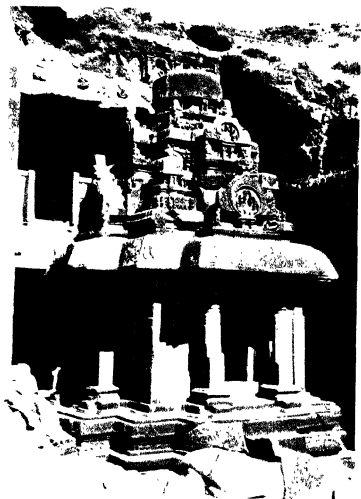
Melobalanum - See monolithic rather. See pp. 143 and 148



Ellora Kailasa temple. See p. 151

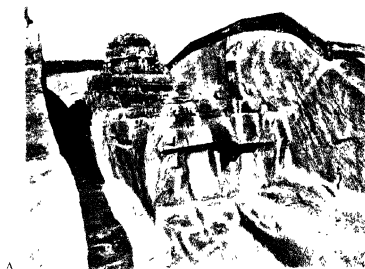


Ellora Cave 15. Dāśarājānā hand-microtype. See pp. 134 and 152



Ellora Cave 33, Indrasabha. See pp 136 and 152

PLATE XLVI

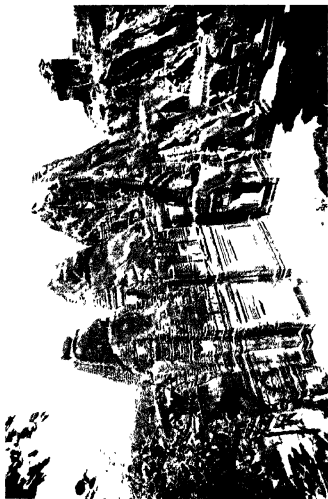


A



B

A *Kabigumalai* Vettuvānkoyil, B *Dhamma* monolithic temple, See p. 153

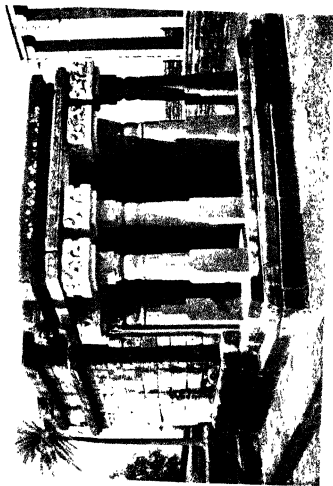


Masuo medallion temple. See p. 154

PLATE XLVIII

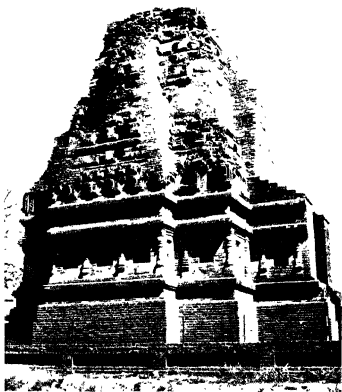


Colgone monolith, temple See p. 155

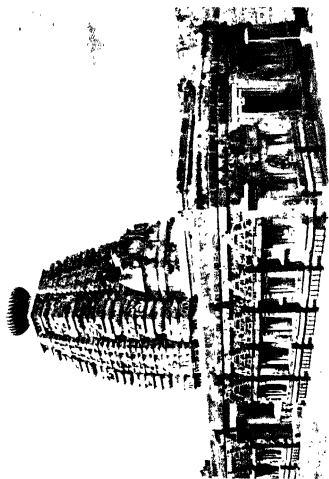


Samudra Gupta temple See p. 159

PLATE L

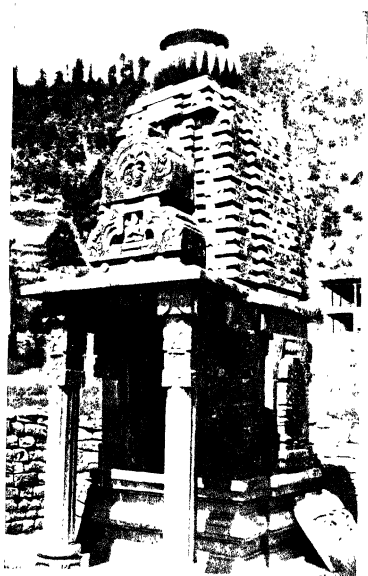


Bhotargaon Brick temple See p. 159

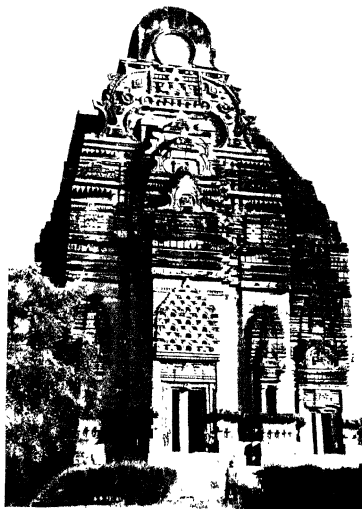


Alampai Uxue-Bodhi temple See p. 163

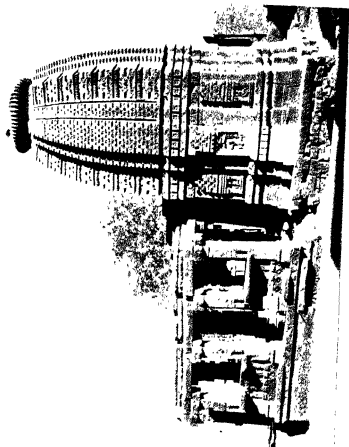
PLATE LH



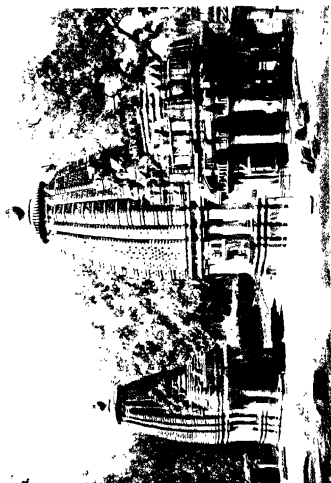
Jagatsakh Siva temple See p. 164



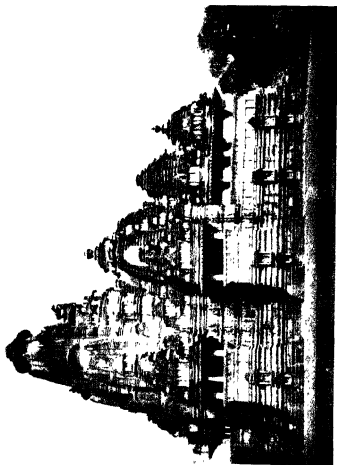
Gwalior Telikā-Mandir See p. 165



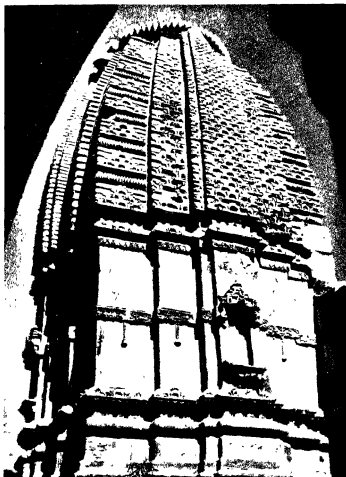
Osipov Sun temple See p. 167



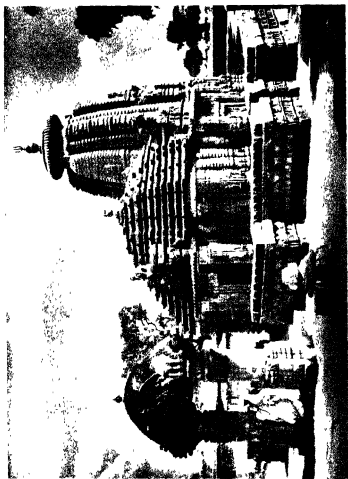
Baroli, Ghateviya temple. See p. 168



Khajuraho Temples. See p. 176



Wadhwan Rānakdevī temple See p. 180



Bhudansvat Muktesvara temple See p. 186

वीर सेवा मन्दिर

पुस्तकालय

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